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Products & Services

AboveNet Access Services

Rise above legacy PSTN infrastructure.

The term “last mile” is often used to describe a constraint on information exchange. Network access in the last mile can be limited to copper infrastructures and central office architectures. That means rate limited circuit-based capacity and strict compliance with complex telecom protocols. Additionally, telecom services likely operate over a PSTN infrastructure your business must share with countless others.

AboveNet views the last mile as an opportunity for your business to break free of legacy PSTN infrastructure and benefit from unconstrained information exchange. AboveNet Access Services bypass the copper local loop by delivering private fiber connectivity and end-to-end optical performance directly to your office. You’re in control. You choose your technologies, applications, protocols, capacities and destinations.

AboveNet Metro IP Service.

AboveNet connects your corporate Ethernet LAN from your office to our global IP backbone using gigabit Ethernet connections over private fiber. Experience ultra-broadband direct Internet access that bursts on-demand and can be billed in 1Mbps increments according to your actual usage.

AboveNet Dark Fiber Services.

Using point-to-point and ring configurations, build a private optical network that fits the needs of your business.

AboveNet Building Access Services.

AboveNet has hundreds of network access points and commercial buildings on-network to enhance the reach and value of your private optical network. Single- and dual-entrance solutions are available to meet your network redundancy objectives.

AboveNet In-Building Distribution Services.

Network demarcation points can be flexibly located using in-building risers. AboveNet is not limited to carrier entrance facilities, but can build directly to your office suite.

AboveNet Custom Network Solutions

AboveNet can build customer-defined networks precisely tailored to your needs.

Discover the power of unconstrained information exchange on an all-optical infrastructure to revolutionize productivity and transform your business.

AboveNet. It’s about time.

Introducing - Abovenet Metro Ethernet Services

Contact AboveNet Today!

IP and Fiber Maps

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Verizon Response - Exhibit 5.B.3

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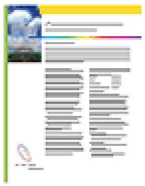
AboveNet Access Services - Building Access Services

Direct Access for Carriers



Building Access, Optical Access Ramp (BA-OARs)

AboveNet's extensive private metropolitan networks have been designed to provide direct access to carrier hotels, data centers and key commercial office buildings. AboveNet provides connectivity and distribution to key buildings that dramatically reduces the cost and time to market for our carrier customers.

Introducing - Abovenet Metro Ethernet Services

Contact AboveNet Today!

CO / Optical Access Ramp

In the competitive telecommunications industry, access and bandwidth are the keys to success. With AboveNet's Central Office Optical Access Ramp (CO-OAR) Services, these elements have come together to provide a unique product for today's service providers. Utilizing a unique configuration that provides a universally accessible distribution point within RBOC central offices and tandems, CO-OAR allows carriers to rapidly connect directly from AboveNet's fiber backbone into ILEC network.

IP and Fiber Maps

The result - fast and easy co-location combined with virtually unlimited bandwidth. A truly competitive advantage.

Central Offices Optical Access Ramps Services includes:

- Direct Access - carriers connect from their POP into the Bell Atlantic COs and tandems via the AboveNet backbone with a pre-specified fiber count.
- Fast - fiber presence is pre-established within each CO; allows for fast connection to co-location space and unbundled elements.

Many Needs, Many Services

Along with CO/Optical Access Ramp product, you can utilize a variety of AboveNet products and services specifically designed to meet the needs of carriers, ISPs, IXCs, and CLECs. Starting with dark fiber, the core of our optical services portfolio, you can build upon this infrastructure and utilize our Co-location and Long Haul services. By adding these additional products you can fully leverage the virtually unlimited potential of your optical network.

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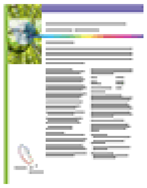
AboveNet Transport Services - IP Bandwidth



Introducing - Abovenet Metro Ethernet Services

Contact AboveNet Today!

Pure IP Bandwidth at its best.

AboveNet's IP Bandwidth offerings overcome bandwidth limitations by giving you fast, reliable IP connectivity to the Internet within all major metropolitan areas-all over AboveNet's optical Internet long-haul backbone. AboveNet IP Bandwidth Services ensure that your data arrives quickly and reliably, whether you need easily managed Internet access from your cage in an AboveNet Data Center or direct access to the Internet backbone. In addition, AboveNet's customers include major top-tier ISPs. AboveNet IP Transport Services give you fast, direct "on-net" routing to the most in demand Internet networks and sites.

AboveNet IP Bandwidth Services also give you a cost-effective path to AboveNet's extensive **dark fiber infrastructure**, which provides virtually unlimited, unmetered bandwidth at a fixed cost as well as access to our IP backbone. With AboveNet, you can control the growth and development of your own, private, facilities-based network and gain the benefits of dark fiber-unlimited capacity, speed, flexibility, security and reliability.

IP and Fiber Maps

Access Based on Your Needs
AboveNet IP Bandwidth Services are designed to meet your specific requirements for IP connectivity. They include:

Simple Internet Access - This cost-effective service provides easily managed Internet access from your cage in an AboveNet Data Center. Once your order is complete, we'll provide you with a gateway IP address, DNS address and IP address, and turn on your connection, typically within 24 hours.

Direct Internet Access - For carriers and enterprises that need the fastest and most robust Internet connectivity available, this service extends Border Gateway Protocol (BGP) routes directly to you, giving you the ability to effectively control your Internet traffic. We can connect you from a variety of POPs, including telco hotels, PAIX locations and AboveNet Data Centers.

Highest Levels of Reliability
AboveNet IP Bandwidth Services ensure that your customers never find your network unavailable. In fact, our Service-Level Agreements (SLAs) guarantee 100 percent uptime. Multiple, redundant fiber connections into data centers eliminate any single point of failure and the possibility of downtime from man-made or natural disasters. Redundant network connections are also available.

IP Bandwidth Services Highlights:

- Direct paths to the Internet from all major metro areas over a 100% fiber optic network
- Lightning-fast connectivity, with speeds up to OC-48 (OC-192 in some locations)
- Rich peering relationships put you closer to destination networks on the Internet
- Redundant fiber connections eliminate single points of failure
- 100% uptime SLAs
- Massively over-provisioned network ensures bandwidth availability
- "On-net" direct routing to major providers such as AOL and MSN
- Flexible connection options
- Cost-effective path to AboveNet's dark fiber infrastructure, which offers unlimited, unmetered bandwidth at a fixed cost.

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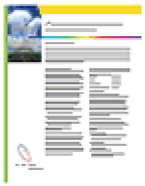
AboveNet Access Services - Dark Fiber

Meeting Demand At A Fixed Cost



Over the last several years Abovenet has focused on the last mile, laying thousands of miles of fiber-optic cable in major metropolitan areas throughout the US and Europe. Abovenet has delivered metropolitan area optical networking to bandwidth-starved businesses previously boxed in by copper, complexity, and high cost. By tapping into AboveNet's extensive metropolitan area network, you can manage your communication costs while reaping the benefits of fiber's virtually unlimited bandwidth capabilities. As our network continues to expand, we can help you grow your business, entering new markets and connecting facilities to your communication infrastructure.

Introducing - Abovenet Metro Ethernet Services

Contact AboveNet Today!

Every first year economics student is taught that as demand increases prices follow. Abovenet is changing the way that bandwidth is priced. When you lease AboveNet dark fiber the cost of your fiber will never go up, no matter how much bandwidth you utilize. AboveNet fiber is priced at a fixed-cost.

IP and Fiber Maps

With AboveNet's dark fiber, you can meet your growing bandwidth demands both quickly and cost-effectively. When you lease dark fiber from AboveNet you gain your own private optical network giving you the flexibility, security, and reliability you need to manage your own infrastructure today and for years to come while keeping cost constant.

Staying Ahead of Demand

With currently available technology, a single strand of fiber can transmit over 2 terabits of information per second - this number is increasing rapidly. Utilizing AboveNet's optical fiber you not only meet your growing need for bandwidth but you stay ahead of the demand curve by adding more capacity quickly and cheaply.

With AboveNet's dark fiber optical network you gain the benefits of:

Unparalleled security
As the only user of your fiber you can rest assured that no other traffic is on your network and no one can access your data. Not simply just a secure network, but a sovereign one.

Flexibility
Since you control your own infrastructure you decide how much capacity to use and the types of equipment that best meet your needs.

Whether you choose to utilize one of Abovenet's managed optical solutions or run your own network, you have a wide range of transport protocols and applications available to use:

- Disaster Recovery
- Storage Networks
- Data Mirroring
- Video Conferencing
- Distance Learning

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- IP
- SONET
- DWDM
- ATM
- Gigabit Ethernet

Abovenet can provide the expertise to manage or assist you in managing your network. We offer a wide variety of network services and connectivity options.

Discover the power of unconstrained information exchange on an all-optical infrastructure to revolutionize productivity and transform your business.

AboveNet. It's about time.

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Management Team
Corporate Organization

Growing With — and For — Our Customers

AGL Networks provides exceptional value to its customers by offering the critical last mile connectivity between telecommunication service providers and business locations. Specifically, AGL Networks:

- Owns and operates a 175-mile fiber network in the metro Atlanta area
- Owns and operates a 60-mile fiber network in the Phoenix central business district and select areas beyond
- Provides high capacity transport services to carrier, wireless and enterprise companies as well as government, health care and educational institutions
- Enables last-mile connectivity to major office buildings, COLOs, POPs, Bell COs, and carrier hotels
- Leases dark fiber and conduit, including:
    - Backbone
    - Laterals
- Provides construction services
    - Custom-build projects
    - Last-mile connections

With more than 175 fiber miles, we are the largest all-fiber competitive local exchange carrier (CLEC) in metro Atlanta, serving the central business district and points north and south of the city. Additionally, our 60-mile Phoenix network covers the central business district, midtown and airport areas. Our prespliced connections and Fiber Termination Panels (FTPs) give our customers rapid deployment of bandwidth to meet existing and future requirements.

If you're searching for fiber — and a competitive advantage in your telecommunications growth initiatives — grow with AGL Networks.

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AGL Networks

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>> Metropolitan Optical Networks
Benefits of Dark Fiber
Custom Network and Services

Metropolitan Optical Networks

Dark Fiber Connectivity: Your Smartest Way to Grow
Dark fiber and conduit networks: They are essential to companies in need of high-speed, high-capacity, high-reliability telecommunications services. Businesses today look for every way to maximize their investment and speed their time to market. Yet very few can expend the time or capital to build a network from scratch. With our metropolitan optical networks in Atlanta and Phoenix, we provide clients the telecommunications flexibility they need.

The flexibility of AGL's established networks allows you to lease dark fiber in strand counts and bundles — from point-to-point or over the entire network. You can add infrastructure to fit your growing needs on your schedule, today and as you grow.

Who Values Us?

- Local, regional, national telecom companies
- Major corporations
- Government, healthcare, and educational institutions
- CLECs, BLECs
- Cable carriers
- ISPs, ASPs
- Companies with data and call centers

AGL Networks offers clients what we do best: design, build, and manage fiber optics networks to uncompromising standards. Our projects reflect the synergies of proven processes and long-standing relationships. They result in timely and cost-effective solutions for your telecommunications needs. By utilizing our core competencies, delivered by our professionals, you free your time, resources, and capital.

Why AGL Networks?

- AGL Resources builds more than 50,000 laterals and installs more than 750 miles of pipeline each year.
- AGLN installs more than 50,000 laterals and 750 miles of conduit per year.
- 100 percent of our network is new and primarily underground.
- We have "Big 3" confidence.

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American Fiber Systems

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100 Meridian Centre
Suite 250
Rochester, NY 14618

Price Guide

Metro Optical Ethernet Services

Rates, Terms and Conditions of Service

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1. BACKGROUND AND SUMMARY OF NETWORK CAPABILITIES

1.1 Executive Summary

American Fiber Systems ("AFS"), a leading nationwide provider of fiber networks in second and third-tier U.S. cities, offers both "lit" and dark fiber services to its customers ("Customers"). AFS' lit services include its "Metro Ethernet Virtual Private Line Service" ("Metro EVPLS"),[1] a telecommunications service designed to connect Customers' Ethernet based local area networks ("LANs") to remote data centers, carrier points of presence ("POPs"), and Internet access[2] gateways. Metro EVPLS consists of three (3) different Ethernet based transport services: (i) Ethernet Virtual Private Line Service ("EVPLS") will provide point-to-point connectivity between diverse locations within a metropolitan area with Ethernet based transport, (ii) Ethernet Virtual Private LAN Service ("EVLAN") will provide point to multipoint, or any point to any point connectivity across multiple diverse locations within a metropolitan area with Ethernet based transport, and (iii) Ethernet Internet Access Service ("EIA") will provide a connection with a bandwidth profile from 1Mbps to 1,000 Mbps to the Internet backbone. EIA provides Customer only with access to the Company's backbone network that serves as a transmission conduit through which Customer may connect its data servers to the Internet. The Company does not operate, process or control the information, services, opinions or other content of the Customer's data servers or the information, services, opinions or other content of the Internet; nor does the Company engage in any protocol or information processing or conversion in connection therewith. EVPLS, EVLAN and EIA are hereinafter referred to as Metro Ethernet Virtual Private Line Service ("Metro EVPLS").

Benefits of AFS' services, such as Metro EVPLS, include the following.

- **Lower transport costs.** Metro EVPLS pricing is more attractive than comparable private line carrier offerings. Metro EVPLS also permits incremental bandwidth increases up to 1 Gps as Customer's needs dictate.

- **Increased reliability, diversity, and expandability.** AFS' networks are always configured with diverse load sharing metro network paths, which provide built-in reliability for optical transport. They are monitored 7/24/365. As required, AFS will construct laterals from the AFS network to the Customer's facility.[3]

---

[1] For a detailed technical description of the Metro EVPLS Services, see Section 2 below.

[2] AFS currently does not supply Internet (or other information) services in conjunction with its telecommunications service offerings. Customers should contract with their ISP separately for such access.

[3] Charges for such special construction, if needed, will be based upon ICB rates.

- **Single point of accountability.** AFS serves as the Customers' single point of contact for all service problems, thereby eliminating "finger pointing" and other complications in dealing with multiple carriers.

- **No capacity constraints.** Bandwidth and other capacity constraints caused by third party leased facilities are eliminated**.** Traffic is delivered over AFS' all fiber network.

- **Superior fiber technology.** AFS' network is built with Application Specific Metropolitan Fiber that is Multi-protocol, Multi-Application, supports broader spectrum usage, and has minimal Db loss tolerance to distance and splicing.

- **Simple pricing**. AFS' service charges are based on a simple upfront installation charge and a monthly, recurring charge.[4] Billing is provided on a simple, monthly invoice.

1.2 Pricing

1.2.1 General

The rates for AFS' intrastate service are set forth in its tariffs, on file with the respective state utility commission for the applicable state. Promotional rates for the Metro EVPLS ambassador pricing are set forth below. All other AFS rates for interstate service are available upon request. A Customer will be deemed to be purchasing interstate service if ten percent (10%) or more of the Customer's traffic delivered over AFS' network is interstate.

1.2.2 Metro EVPLS Beta Customer Promotion

For each of its first EVPLS, EVLAN AND EIA Customers ("Beta Customers") in an AFS market, AFS is offering (i) a special ambassador pricing promotion, and (ii) free traffic separation service. That is, if a Customer wishes to separate its traffic to separate ingress ports (up to 12 available), for different priority handling based on Customer assigned VLAN or TDI designations, AFS will treat these as one logical port for billing purposes.

---

[4] These are exclusive of taxes and surcharges. See Section 6.5 below.

1.2.3 Dark Fiber Services

Upon request and subject to the availability of facilities (including without limitation, access rights to poles, conduits, and rights of way as needed), AFS shall make available dark fiber facilities ("Dark Fiber") to Customer on a case by case basis. Such Dark Fiber will usually be comprised of single mode, fiber optic facilities suitable for provisioning point-to-point communications, transmitting at Customer specified bandwidths. In certain circumstances, however, AFS, upon specific request, may provide Customer with "dark" Multimode fiber to the extent available. Charges for Dark Fiber facilities will be calculated on an ICB, per strand, per mile basis. Dark Fiber, where available, is provided in increments of at least one strand, with the fibers terminating on a standard optical patch panel. The types and routes of Dark Fiber facilities that AFS chooses to make available will all be determined by the Company in its sole discretion. All Dark Fiber is provided on an "as is" basis, and AFS makes no guarantee or warranty whatsoever, whether express or implied, regarding Dark Fiber, including without limitation, the suitability of Dark Fiber for use by Customer for any purpose whatsoever, regardless of whether or not AFS was informed of such intended use or purpose.

1.2.4 Contact Information

Additional information on AFS' services, including features, capabilities, rates, terms, and conditions are available from the following:

Mr. Bill Ciminelli
American Fiber Systems, Inc.
(585) 340-5400, Ext. 132
bciminelli@americanfibersystems.com

2. METRO EVPLS SUMMARY

Metro EVPLS permits a Customer to extend the range of their Ethernet communication from LAN to a wide area network.

Customer may request a change to its EVPLS bandwidth ("Bandwidth Profile") at any time provided it does not exceed the physical line rate of the port on which the circuit is provisioned (e.g. Customer could not have a 150 Mbps Bandwidth Profile on a circuit delivered via 10/100 BaseT connection).

With Metro EVPLS, Customers' Ethernet transmissions are encapsulated at OSI Layer 2, using standard IEEE 802.3z protocol, and delivered over the AFS supplied optical backbone network to a designated remote site. Metro EVPLS thus can deliver IP ("Internet Protocol") or other data packets between two (2) specified points using Ethernet frames. Each Ethernet circuit will have a total Bandwidth Profile, which indicates its maximum data throughput. Metro EVPLS is transparent to Layer 3 protocols, including IP, IPX, and AppleTalk. Connectivity is available (initially) at the discrete bit rate from 1 Mbps to 1000 Mbps (in increments of 1 Mbps or 10 Mbps). Metro EVPLS thus permits Customers to transmit any information content of their choosing, and delivers the Customer's Ethernet communications without change in form or content from the Customer's premises to a specified destination (remote site, data center, or other carrier's POP).

3. PERFORMANCE

AFS undertakes commercially reasonable efforts to achieve the following performance goals and to make available the following network capabilities for Metro EVPLS Customers:

3.1 Network Performance Goals ("SLAs")

SLAs will vary depending upon Customer's network configuration and specific service agreements entered into by the parties. Generally speaking, EVPLS is intended to operate according to the following SLAs:

- EVPLS Availability: **99.5% – 99.99%**
- Network Restoration: **200ms – 1000ms**

4. AFS TECHNOLOGY

The AFS network architecture is constructed by utilizing Ethernet over Fiber ("EoF") in a "hub & spoke" configuration with switching/routing between the AFS' POPs.

AFS' implementation is based on the longstanding IEEE 802.3 Ethernet standard. This implementation is a simple electrical to optical translation over AFS' Fiber. AFS' network can deliver functionality over point-to-point and mesh network topologies. EoF is a very cost-effective, high-performance (up to 10 Gbps) solution and can span distances as great as seventy (70) kilometers. This approach takes advantage of AFS' "fiber rich" networks to implement cost effective solutions that can be implemented very quickly.

AFS' operations and support systems ("OSS") provide centralized provisioning and activation of Ethernet layer services across the entire AFS network. AFS can set all detailed parameters to provision service ("bandwidth" in 1 Mbps increments, burst durations, 802.1p priorities, etc.). AFS' OSS provides an on-line resource management tool that maintains an accurate relationship between Customer / services / resources. A database tracks the availability of network resources required to provision services or to

SONET

Throughout it's fiber network, American Fiber Systems employs Synchronous Optical Network (SONET) technology. SONET has the ability to detect any problems in the network including cuts in the network fibers. Since our networks are deployed in a ring, your communications signals simultaneously travel along two separate fiber optic paths. If SONET detects signal degradation in one of the paths, your communications signal will be maintained on the second fiber optic path, avoiding interruption. This process takes place within milliseconds, so the changeover is imperceptible. American Fiber Systems currently employs SONET products manufactured by Fujitsu (www.fujitsu.com) an industry leader in metro SONET equipment.

DWDM

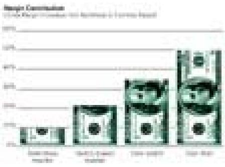
Dense Wavelength Division Multiplexing (DWDM) is a higher capacity version of fiber optic transport technology. DWDM is a means of increasing the capacity of fiber-optic data transmission systems through the multiplexing of multiple wavelengths of light. Simply stated, separate signals can be transmitted via separate colors (lambdas) over the same pair of fibers. American Fiber Systems' network contains OC-48 DWDM equipment manufactured by ONI (www.oni.com). American Fiber Systems' DWDM rings can transport up to 33 separate OC-48 signals over a single fiber pair. This capability has cemented American Fiber Systems's reputation as a carriers' carrier.

OPTICAL ETHERNET

Built on the available installed base and proven reliability of Ethernet technology, our Metro Optical Ethernet product allows customers all of the flexibility of Ethernet with carrier grade capacity and reliability. Using the products manufactured by Coriolis (www.coriolisnet.com) in the Optiflow product line as well as Fujitsu's Ethernet over SONET platform, American Fiber Systems can provide point to point Ethernet speeds between 10 Megabits per second and 1 Gigabyte per second. The Ethernet signals will be carried over our SONET ring and will enjoy the diversity and reliability of carrier TDM signals. Our customers can custom order the connection speeds in 10 Mbps increments to fit their needs exactly. No longer is it necessary to squeeze data into a pipe that is not quite large enough or to buy much more capacity than what is needed just to accommodate peak usage times. Our Metro Optical Ethernet product will be tuned to the exact fit of the customer and can be increased or decreased in a few days time. Direct Ethernet connections also give users the advantage of direct incorporation of network connectivity into existing router Ethernet ports, eliminating the need for the purchase of an expensive TDM router card. The Ethernet connection will just plug right into the router's existing Ethernet port.

INTERNET SERVICE PROVIDER

In addition to being a world-class carrier; American Fiber Systems is also a world class Internet service provider. Our customers can purchase their T1's from us with Internet access and router included and benefit from the advantage of consolidated billing and one stop shopping for customer service and maintenance. American Fiber Systems currently has three separate connections to the Internet backbone which gives our customers diverse routing to the Internet. American Fiber Systems uses the Cisco 7206 (www.cisco.com) core router which supports all of the latest gateway protocols including BGP4. We offer web hosting, email boxes, IP addresses, content filtering, and other major value added services to Internet access.

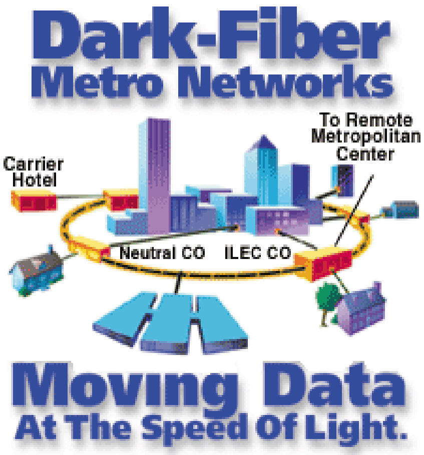


Fiber Factoid

Increase your gross margins to 50%. According to a recent study by Jeffries & Company, carriers and service providers who own their own networks typically enjoy gross margin revenues of 50%, as compared with 30% for smart-build switch carriers, 21% for switch-based resellers, and only 9% for switchless resellers.

Dark Fiber Metro Networks

Nothing liberates the power of the Internet like our sophisticated network technology—including the power to profit from it.



AFS metropolitan networks, with built-in redundancy for total reliability, are designed using sophisticated demand-profiling software for market-smart integration. This results in strategic placement of dark fiber cable (from 288 to 864 strands) in and around the metro area for maximum high-capacity service coverage in high-density business districts.

That's why companies who partner with AFS will remember intra-city data gridlock as a quaint bump in the road.

With this breakthrough technology soon to be available across the country, your pathway to efficient service provisioning and maximum profitability is clear. Bandwidth is virtually unlimited, but your lease price is fixed for your term. You're free to develop and provide your own services on your own terms, completely unrestricted, and to operate as a facilities-based company—the route recognized by industry experts as the only way to go.

Get the real story about how much it costs for a CLEC to lease ILEC network facilities. Download the case of Hypothetical Communications, Ltd. by clicking on the arrow to the right and you'll find out all the facts and figures for yourself. You might just be surprised.

DOWNLOAD DARK FIBER BUSINESS CASE
POWERPOINT PRESENTATION

Fiber Factoid
Wavelength division multiplexing, allows our customers to split fiber into 160 channels--with each channel

capable of carrying as much traffic as an old single fiber.

AFS offers enterprises, carriers and service providers a much better alternative than either leasing fiber or transport services from a retail competitor or building their own metro networks.

Among the benefits of dealing with AFS are:

- Higher profit margins. Dark fiber is far more affordable than leasing DS-3s.
- No competition. We are carrier-neutral and committed to supplying dark fiber and wholesale transport services. We have no interest in selling retail services in competition with our own customers.
- Superior network design. Our expertise is in the design and deployment of optical-fiber networks. Customers always benefit from our singular focus.
- A completely turn-key operation. AFS handles every aspect of the process -- route development and design, right-of-way procurement, engineering, franchising, permitting, construction oversight, operation, monitoring and maintenance.
- Flexible pricing. Wholesale transport and dark fiber leasing and term contracts to fit any budget.
- Professional services. Professional consulting every step of the way -- from initial concept through equipment selection through co-location and gateway services, through network monitoring, through value-added services.
- And on, and on, and on...

Today, downloading a 90-minute digital movie takes more than 7 hours over the fastest cable modem--over an hour with an Ethernet connection.

With an AFS Network lit by modern optronics, it takes 4 seconds flat.

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Contact our webmaster with any technical issues.

American Fiber Systems is the fastest way to get your metropolitan networks up to speed.

American Fiber Systems is a "dark" fiber metropolitan infrastructure and transport services provider, dedicated to enabling aggressive companies to profit from the burgeoning communications market without waiting years to do it. We design, build, operate and maintain high-capacity, high-bandwidth fiber-optic networks, constructed on full-spectrum fiber and completely connected to a city's most important points of communications presence:

ILEC and CLEC central offices;
ISP and ASP facilities;
Interexchange "carrier hotels;"
Wireless providers and cable company head ends, and
Fortune 1000 companies.

Our sophisticated metropolitan networks, with built-in redundancy for total reliability, provide maximum high-capacity service coverage in high-density business districts. You can lease exactly the capacity you need with our transport services or lease dark fiber on a strand-by-strand basis. What's more, we will never compete with you. As your wholesale strategic partner, our only mission is to enable your success as quickly and efficiently as possible.

Professional Services

AFS also offers a wide range of Professional Services, from the business planning stages to design and implementation to managing and maintaining. Whether your company is looking to outsource functions longer term or has a one time project management or consulting requirement.

With the latest optical technology, a single strand of fiber thinner than a human hair can now carry every phone call, e-mail and Web page used by every person in the world.

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AT&T

Verizon Response - Exhibit 5.B.3

AT&T The world's networking company℠

att.com | At Home & On the Go | Small & Medium Business | Enterprise

ENTERPRISE BUSINESS: SERVICE PORTFOLIOS INSIGHT & NEWS CUSTOMER CENTER

AT&T Local Private Line Service

SERVICE PORTFOLIOS

- INTEGRATED OFFERS
- DATA
- HOSTING
- IP & IP VPN
- BUSINESS CONTINUITY & SECURITY
- VOICE
- ACCESS & LOCAL
- PROFESSIONAL SERVICES

What is your business doing? Growing, of course, adding sites, expanding locations - and finding that your mission-critical data communications are increasing all the time!

Every minute of the day, companies like yours are connecting LANs. Sharing e-mail. Running POS applications, credit line authorizations, online banking, new hire training.

To keep up with the bandwidth explosion and manage it all, you need what you've always needed - networking speed, efficiency and reliability. Now you can get it in a new, yet reassuringly familiar, way.

FEATURES & BENEFITS

AT&T Local Private Line Service offers private line connections in an extremely cost-effective package. Your business doesn't need to invest in new equipment, or transfer to a switched environment. You can run all your data applications, access all your corporate intranets and extranets, plus integrate your voice services - all with AT&T Local Private Line Service.

You will find that you can grow your business across town or across the US and still take advantage of AT&T Local Private Line Services - in more than 70 Metropolitan Areas spanning 38 states.

AT&T Local Private Line Services are delivered over the AT&T Local Service SONET backbone infrastructure.

AT&T can establish a point-to-point connection from your premise to a carrier's POP, to non-AT&T InterExchange carrier, to your disaster recovery center or even to your ISP for Internet access. Local Private Line Services are full-duplex services and can be provisioned at the following speeds: DS-1/DS-3, OC-3c, OC-12c, STM-1, STM-4, OC-48c, OC-192c and Ethernet (50 Mbps, 150 Mbps, 300 Mbps, 600 Mbps and 1 Gbps).

With AT&T Local Private Line Service SONET backbone, you'll receive protection and reliability. We target a 99.995% availability! In fact, the network is designed to recover from disasters such as fiber cuts or electronic component failures within 50 milliseconds.

OPTIONS

- AT&T Dedicated Entrance Facility
- AT&T Ethernet Private Line Service-MAN
- STM-x Service

PRICING

AT&T Private Line Service requires customization and tailoring to your environment. For further information, you can contact an AT&T representative by calling 1-800-222-0400..

Request Additional Information

Send us your questions/comments this service.

Product Brochures

AT&T Dedicated Entr
Facility

Local Private Line Se

Additional Resourc

AT&T eXpress Bondi
(SM) - Fact Sheet

Data
Services

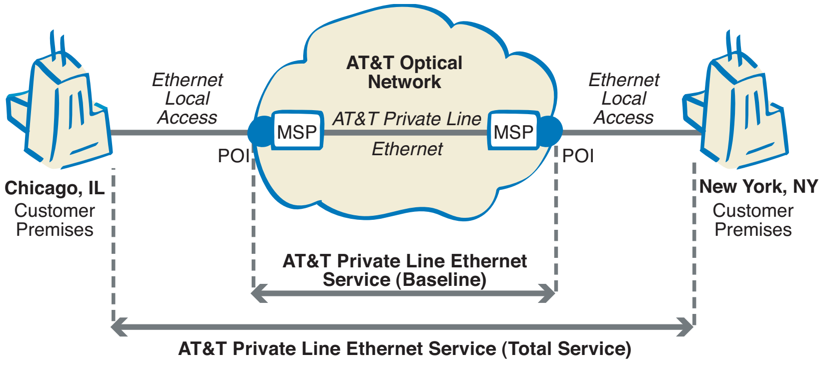
AT&T | Wholesale

AT&T Data Services. For You. For Your Customers.

AT&T has been building and delivering mission-critical data services to enterprises and service providers for many years. AT&T Wholesale Services offers best-in-class performance, service delivery and operational support enabling you to build flexibility, high reliability, performance and scalability into your service offerings. You may also leverage some of these same services to provide new technologies to your customers, or to better manage your ever-changing internal needs.

AT&T PRIVATE LINE SERVICES

AT&T offers an array of Local and Long-Haul Dedicated Private Line & SONET services from Single Channel to OC192 (Wavelength) Services, all with high availability and performance. In addition, Ethernet Services are available in bandwidths from 50Mbps up to 1Gbps. In the event of a service outage, we stand behind our services with credit allowances and aggressive Service Assurance Warranties (SAW). AT&T Private Line Services handle demanding communications needs with AT&T's assurance of availability, reliability and performance.



POI = AT&T Ethernet POP Point of Interface

Options for AT&T Private Line Services cover access, diversity, reliability, network management and disaster recovery.

- **AT&T Bandwidth Manager (ABM)** provides a full spectrum of network management, bandwidth-on-demand and disaster recovery capabilities.

- **Enhanced Reliability Option** offers the strongest SAW in the industry, guaranteeing 99.99% service availability.

- **Multiplexing** allows you to combine network circuits over a common high-speed backbone to improve economic performance and optimize efficiency and utilization of the service.

Your Networking Solutions Provider

AT&T Wholesale Services offers a comprehensive worldwide portfolio of global Voice, Data, IP and Applications Services to help you grow your business on three fronts. First, as a service provider, you have our best-in-class communications products to market to your customers. Now you also have the valuable opportunity to leverage some of these same services:

- To build and strengthen your own network infrastructure

- To manage and facilitate your internal business operations

With a world-class breadth of communications capabilities, AT&T Wholesale is uniquely positioned to help you serve your customers, keeping both your business and theirs moving forward.

AT&T HIGH-SPEED PACKET SERVICES

For high-speed transport, high-level security and a network that can quickly be scaled up to meet growth, AT&T offers flexibility around its industry-leading packet services, available in the US and around the world. As a Service Provider you generate revenues by marketing AT&T's best-in-class communications products to your customers. Now you also have the valuable opportunity to leverage some of these same services to build out and strengthen your own network infrastructure, and/or to manage and facilitate your internal business operations.

- **AT&T Customer Network Management System (CNMS)** provides a comprehensive Web-based network performance and monitoring tool delivering robust trending reports on each port and PVC on customer networks.

- **AT&T Frame Relay Service** is based on frame relay technology and is provided over AT&T's ATM switching backbone for high-speed reliability, low congestion and consistent performance. Its rich feature set includes industry-leading SLAs, AT&T ReliaBURST® for traffic spikes beyond your Committed Information Rate (CIR), virtually instantaneous rerouting around failures and Priority Egress Queuing (PEQ) to ensure that the highest priority communications traverse the network first.

- **AT&T ATM Service** provides extremely rapid transport, minimal delays and very high-quality levels - even for voice and video transfer. Highly bandwidth-intensive applications cross the network with ease, including videoconferencing, medical imaging and high-quality video for media applications. AT&T's ATM Service can run voice across the data network at speeds up to OC12.

- **Reliability Options for AT&T Frame Relay and ATM Services** build in protection, redundancy, multiple speed and connectivity solutions. The faster speeds support multimedia capabilities.

- **AT&T Frame Relay to ATM Service Interworking** allows customers to transmit data between AT&T Frame Relay and ATM ports.

- **Network Gateway Interface (NGI) and International Network Gateway Interface (I-NGI)** offerings provide the capability to expand the local, regional or global footprint of your network by connecting your Frame Relay/ATM to AT&T's Frame Relay/ATM Service.

- **AT&T IP-Enabled Frame Relay/ATM Service** combines the flexibility of IP networking with the security of AT&T's best-in-class frame relay/ATM network, helping you maintain privacy on your (or your customer's) frame relay and/or ATM network.

- **AT&T DSL Access to Frame Relay** provides a significant cost savings over other high-speed access services requiring no new customer investment in infrastructure or special equipment.

AT&T ACCESS SERVICES

AT&T ACCU-Ring Service is a fully managed high-speed service running on a SONET infrastructure and providing two-way digital transmission for all local channel connections.These include AT&T Private Line, Switched and Enhanced services, Local Exchange Carrier and Interexchange Carrier traffic, as well as business premise-to-premise communications.

Dedicated Entrance Facilities (DEF) provide a high capacity, dedicated communication path between a customer's premises and the AT&T Local Network Services (LNS) node, or between a customer's premise and another designated premise (two-node direct SONET interface configuration). DEF is offered in various bandwidths at SONET rates. If SONET facilities are unavailable, LNS Special Construction charges may apply.

Ultravailable® Network, Ultravailable® Wavelength and Ultravailable Managed OptEring Services℠ are fully managed, custom solutions for interconnecting a customer's data centers and business sites in a metropolitan area network (MAN) environment with the ability to extend the MAN into the wide area network (WAN) with the AT&T Ultravailable® Managed OptEring℠ Service.

Learn more about AT&T Wholesale and the services we provide by contacting your local AT&T Sales Representative or visiting us at www.att.com/wholesale

AT&T | Wholesale

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AT&T
wholesale
services

AT&T Data Services for Service Providers

With experience that spans more than a century, AT&T understands the unique business needs of service providers. We work with carriers, cable companies, mobile operators and ISPs to meet the specific requirements of your customers on a global basis, while maintaining a strong local feel. We have the infrastructure and resources, plus a global presence in 60 countries, to help you maximize reach and efficiency. Operating in a rapidly evolving marketplace where the pressures of global competition dictate the need for diverse global connectivity, AT&T Data Services offer a flexible portfolio of local, national and international data products and services — always with high levels of technical support that meet your needs as your network reacts to industry forces.

Your Challenge is Our Business

Our U.S. domestic and international sales teams are segmented by geography and specialty to provide you with the data services product and coverage information that supports your needs. We are accessible, knowledgeable and speak your language. We are continually evolving our network and expanding our breadth of services to cover everything from Private Line to High Speed Packet Services (Frame Relay and ATM), with local, national, and global reach. We also offer powerful Web tools so you have available comprehensive network management information at the point-and-click of a mouse. We are focused on building a network to handle complex and mission-critical applications, emphasizing features that enhance key competencies and responding to fast-changing needs. In fact, through our commitment to solving data networking challenges, we design networks that fit the needs of you and your customers. Selecting from our data networking portfolio, we can help you customize and create, giving you and your customers the economies of scale that only a proven global service provider can.

Powering Up with AT&T Strengths

When you choose AT&T, you know you also have the power of the AT&T network behind you. On an average day, the AT&Tnetwork handles more than 2500 terabytes of data. Our frame relay network consistently achieves a 99.99% performance rating. We optimize a combination of bilateral and alternate routes to more than 230 countries and territories, with over 400 correspondents or suppliers. In the U.S., we have more

Want a truly global data network provider? Connect with AT&T.

More than ever, now is the time to leverage AT&T's world-class quality services for your customers' data entworking needs. We have the infrastructure and resources, plus over 100 years of industry experience, to give your customers security and availability. AT&T Wholesale data networking products offer fast and reliable service - anytime, anywhere – at competitive prices for our wholesale customers.

than 61,000 route-miles of fiber (enough to circle the globe twice). AT&T's depth of services has been recognized in the industry, "AT&T remains the player to beat in the business communications space, enjoying a position as the biggest seller to large enterprises and the carrier with the fullest portfolio of data services available." -Yankee Group, July 2002.

We were the first to deliver Frame Relay-to-ATM Service Interworking We not only introduced the award-winning IP-Enabled ATM, but our IP-Enabled Frame Relay Service was the first MPLS-based product in the U.S.

An Overview of AT&T Data Services

AT&T has been here to strengthen data networks for as long as any business in America has been networking. From Private Line to Frame Relay to ATM Services, from local to global to secure Internet Access, we've developed a rich portfolio that can bolster your networks' footprint and capabilities. Whether you are providing a simple T1 local connection, OC192 (10 Gbps) wavelength service or international FR/ATM, AT&T facilities can enable you to build flexibility, high reliability, performance, and scalability into your service offers. As you review our services, remember that we continue to expand our offerings to include new technologies and provide more services to meet your ever-changing needs.

AT&T Private Line Services

From Single Channel to OC192 Services for local or long haul communications, AT&T Private Line Services offer an array of choices, all with high availability and performance, plus the security only Private Line can assure. In the event of a service outage, we stand behind our Single Channel and Fractional T1 services with a Credit Allowance, while our T1 and T45 services are protected by a Service Assurance Warranty(SAW).

Bandwidth Options:

- Single Channel
- Fractional T1 and T1
- Fractional T45 and T45
- OC48 to OC192 Optical Wavelength Services
- Ethernet Services available at: 50Mbps, 150Mbps, 300Mbps, 1Gbps.

AT&T Private Line Services handle your demanding communications needs with AT&T's assurance of availability, reliability and performance.

Think innovation is out of fashion in traditional carrier services? Don't tell that to AT&T.

"Few companies have the international reach of AT&T and none have the same level of optical offerings as Ultravailable."

– Yankee Group, February 2003

Options for AT&T Private Line Services cover access, diversity, reliability, network management and disaster recovery. The following is a sampling:

- Total Service includes the local access channel and delivers total end-to-end service through AT&T. With this option, AT&T. handles total provisioning, maintenance, billing and support of dedicated access circuits as well as the Interoffice channels.
- AT&T Bandwidth Manager (ABM) provides a full spectrum of network management, bandwidth-on-demand and disaster recovery capabilities.
- Enhanced Reliability Option offers the strongest SAW in the industry, guaranteeing 99.99% service availability.
- Multiplexing allows you to combine network circuits over a common high-speed backbone to improve economic performance and optimize efficiency and utilization of the service.

AT&T High-Speed Packet Services

For high-speed transport, high-level security and a network that can quickly scale to meet growth, AT&T offers flexibility around its industry-leading packet services.

- AT&T Frame Relay Service is based on frame relay technology and is provided over AT&T's ATM switching backbone for high-speed reliability, low congestion and consistent performance. Its rich feature set includes industry-leading SLAs, AT&T ReliaBURST® for traffic bursting beyond your committed information rate (CIR), virtually instantaneous rerouting around failures and Priority Egress Queuing (PEQ) to ensure that the most important communications transverse the network first.
- AT&T Frame Relay Plus provides you with a monitoring and network management window into your customers' networks, down to the application level.
- AT&T IP-Enabled Frame Relay Service maintains the privacy of the frame network while establishing any-to-any access to the Internet, intranets and extranets using MPLS technology.
- AT&T Frame Relay to ATM Service Interworking lets your customers transmit data between AT&T Frame Relay and ATM ports. This service is also useful for customers that wish to migrate from Frame relay to ATM at their own pace with no change in CPE.
- AT&T ATM Service can carry the most bandwidth-intensive applications across the network with ease, including videoconferencing, medical imaging, high-quality video for media applications and running voice across the data network at speeds up to 155 Mbps.
- AT&T IP-Enabled ATM assigns any-to-any access to the Internet, intranets and extranets while preserving the privacy of the ATM network.

> **"With its global network infrastructure upgrade progressing, AT&T is in an increasingly strong position to support high-speed U.S. and international connections and value-added IP services in many metropolitan markets around the world."**
>
> **– Gartner, January 09, 2003**

Reliability Options for AT&T Frame Relay and ATM Service:

- Disaster Recovery Options build in protection against major failures with backup PVCs, access protection, direct links to disaster recovery centers and more.
- Diversity Options put in place redundancy connections such as POP diversity and switch diversity to ensure a continuous flow of network traffic.

AT&T Local Services (Private Line, Frame Relay, ATM)

- AT&T Local Private Line Service is a cost-effective solution for connecting multiple metro sites. – The available speeds are: DS0, DS1, DS3; OC3c, OC12c, OC48c, OC192c; STM 1, 4, and 16. Also Metropolitan Ethernet is available at speeds of 50Mbps, 150Mbps, 300Mbps, and 1Gbps.
- AT&T Local Frame Relay Service connects multiple sites within a metropolitan area requiring bandwidth up to T45 connectivity.
- AT&T Local ATM Service provides that same local connectivity among multiple metro sites, with increased speeds up to T45 and OC3 allowing for multimedia capabilities.

> **"In the U.S., AT&T remains a leading provider of private-line services, as well as frame relay and ATM services, and the company has also been a leading provider of global telecommunications services. AT&T has maintained this leadership position and will continue to do so through its advanced and innovative offerings."**
>
> **– Gartner, April 2002**

AT&T Access Services

AT&T offers several Integrated Access Offers.

- AT&T ACCU-Ring Service is a fully managed high-speed service which runs on a SONET infrastructure and provides two-way digital transmission for all local channel connections. These include AT&T Private Line, switched and enhanced services, Local Exchange Carrier and Interexchange Carrier traffic, as well as business premises-to-premises communications.
- Dedicated Entrance Facilities (DEF) provide a high capacity, dedicated communication path between a customer's premises and the AT&T Local Network Services (LNS) node, or between a customer's premises and a designated premises (two-node direct SONET interface configuration). It is offered in OC-3, OC-12 and OC-48 bandwidths at SONET rates. DEF also offers STM-1 and STM-4 handoffs. Since this service includes a dedicated, high capacity, customized network, it will be deployed where SONET facilities are available. If SONET facilities are not available, LNS Special Construction charges may apply.
- AT&T Ultravailable® Network, AT&T Ultravailable® Wavelength and AT&T Ultravailable Managed OptEring Service are fully managed, custom solutions for interconnecting your customer's data centers and business sites in a metropolitan area network (MAN) environment with the ability to extend the MAN into the WAN with the AT&T Ultravailable Managed OptEring Service. The network design and engineering provides the highest possible levels of availability, reliability and security, assuring your customer fail-safe business continuity with continuous operations and access to their information.

AT&T Dark Fiber Offer

Dark, or unlit, fiber is purchased as a custom offering from AT&T. The dark fiber, consisting of non-zero dispersion-shifted fiber, is designed to support technologies as they evolve. The fiber terminates into the CPE that provides the necessary transmission speed – and the customer provides the required Optical Amplifier equipment.

AT&T Dedicated (Leased) Transit

AT&T's Dedicated Transit (for voice, video, data or IP) allows International Facility-Based Carriers to traverse the US in order to connect sub sea cables, satellite earth stations or border crossings that touch the US. For example, if carrier A (in Europe) and B (in Asia/Pacific) exchange traffic via Japan - US and TAT 14, they would need a segment in the US to connect those two cables. Dedicated Transit allows them to send traffic fromEurope to Asia/Pacific in a seamless fashion. (This is just one illustration and not the only example.)

An AT&T Dedicated Transit Facility is service agnostic. International Facility-Based Carriers can transmit voice, video, data or IP. AT&T's world class US domestic network provides a seamless extension of an administration's own network which allows for the initial establishment of a direct global link to administrations in other countries. Dedicated Transit is available in speeds from 64 Kbps through STM1. AT&T's self-healing, redundant network enables restorations to occur in milliseconds. Network maintenance is provided 24 x 7. Dedicated Transit offers three distinct paths across the US for East/West Coast connectivity.

AT&T Sub Sea Cable

AT&T sells spare capacity in cables in which it has ownership to qualified International Facility-Based Carriers. Sub Sea Cable terms are usually an IRU (Indefeasible Right to Use) or less frequently leased capacity for a minimum of one year. Speeds offered are from 64 Kbps to STM-16. Sub Sea Cable service is non-regulated and non-tariffed, but subject to terms and conditions of the cables' C&MAs (Construction and Maintenance Agreements). AT&T also services and maintains cables in which it has an ownership interest. These facilities boast best in class maintenance and design. AT&T Sub Sea Cable Service can be bundled with AT&T Dedicated Transit and Backhaul Services.

For more information, contact your AT&T Representative or visit www.att.com/wholesale

AT&T

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Buckeye TeleSystem

Verizon Response - Exhibit 5.B.3

MAXLINK BUNDLE

LOCAL VOICE SERVICES

LONG DISTANCE SERVICES

DATA & INFO SERVICES
· ISDN/PRI Data
· Private Line Services
· Private Line Long Haul
· Dedicated Internet Access
· Frame Relay/ATM

Private Line Services

Local point-to-point or point-to-multipoint circuits.

Applications

- PBX Tie Lines
- LAN/WAN Interconnection
- Broadband Dedicated Internet
- Private Networks

Benefits

- Shared Resources
- Broadband Dedicated Internet
- Eliminate per-call charges when dialing throughout your private network.
- Add bandwidth between facilities for Electronic Data Interchange (EDI), Imaging, CAD/CAM, and more.

Buckeye TeleSystem Private Line Service provides broadband dedicated service to businesses in Northwest Ohio and Southeast Michigan. As with all of our products, this transport is offered at capacities ranging from the DS-1 (1.544Mbps or 24 voice-grade lines) level to OC-48 (2.4Gbps or 32,256 voice-grade lines).

Our core network infrastructure is made of redundant SONET rings, which provide the highest degree of reliability for your services. Buckeye TeleSystem owns the responsibility to deliver absolute satisfaction to our customers; therefore, we monitor your service 24 hours a day, seven days a week at our local Network Operations Center. We can see any network anomaly, often resolving it before our customers realize there was a problem. Buckeye TeleSystem would rather call our customers and notify them of a problem than have them call us. That's complete customer service.

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Cavalier Business Communications

Verizon Response - Exhibit 5.B.3

ADD
DSL
Service to your
Business Plan...

cavalier Business Communications
Technology At Your Speed Of Business

NEW!
PHONOI
Voice over
Broadbanc

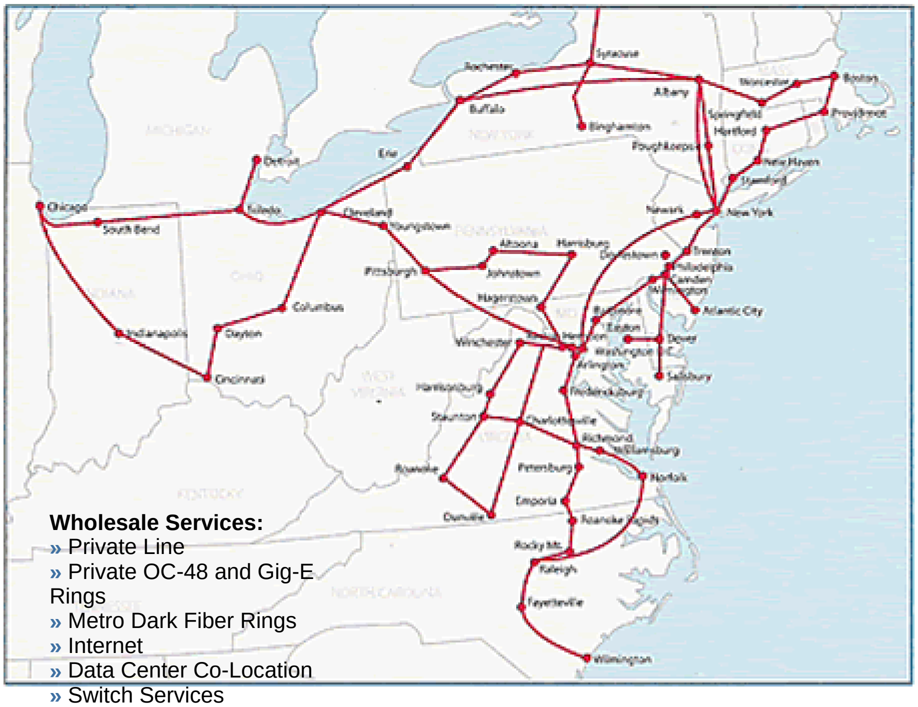
Select your market
to contact your local
sales office and start
saving with
Cavalier Business
Communications.

our markets:

- Philadelphia »
- South Jersey »
- Delaware »
- Baltimore »
- DC Metro »
- Richmond »
- Norfolk »

Wholesale Services

Cavalier Business Communications is proud to provide our network, technology and support to carriers and resellers.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Rochester
Buffalo
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Poughkeepsie
Worcester
Boston
Springfield
Hartford
Providence
New Haven
Stamford
Newark
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Harrisburg
Johnstown
Trenton
Philadelphia
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Atlantic City
Hagerstown
Baltimore
Easton
Dover
Winchester
Washington D.C.
Arlington
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Dayton
Cincinnati
Harrisonburg
Fredericksburg
Staunton
Charlottesville
Richmond
Williamsburg
Norfolk
Roanoke
Petersburg
Emporia
Danville
Roanoke Rapids
Rocky Mt.
Raleigh
Fayetteville
Wilmington
MICHIGAN
NEW YORK
OHIO
INDIANA
PENNSYLVANIA
WEST VIRGINIA
VIRGINIA
KENTUCKY
NORTH CAROLINA
MASS.
CONN.
MD

Wholesale Services:
- » Private Line
- » Private OC-48 and Gig-E Rings
- » Metro Dark Fiber Rings
- » Internet
- » Data Center Co-Location
- » Switch Services

Contact Information:
Joe Delaney
Director of Sales
267-803-4092 or 800-950-7858
jdelaney@cavtel.com

Norfolk
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22 Verizon COs
8 OC-48 fiber rings
150 route-miles of dark fiber

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Users Guides »

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Pay your bill online »

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Special Offer
Starting at **$49.90** /
month for 256K DSL line.

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Choice One Communications

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when you compare,
there's only one.

Your Account
- Logon to Email
- Pay or View Your Bill

Service and Support
- Understanding Your Bill
- Using Your Calling Features
- Moving?
- Area Code Changes
- Internet & E-Mail Services

Products and Services
- Local Phone Service
- Long Distance Service
- DSL - High Speed Internet
- Web Hosting & Design

Choice One Solutions
- Client Testimonials
- Refer a Business
- Solutions for Your Industry
- The More You Buy, The More You Save
- Get a Free Price Quote!

Choice One Wholesale Products

Choice One Wholesale

Metro Private Line

Choice One's Metro Private Line service allows customers to cost-effectively extend their network reach and bring them closer to their customers and partners, reducing their dependence on Local Exchange Carriers, and providing them with greater flexibility, security, and scalability.

Metro Private Line provides a DS1, DS3, OC3, or OC12 of dedicated and protected, full channel, point-to-point capacity on an intra-market route between two Choice One Central Office Collocation cages or a Central Office Collocation cage and a Choice One Regional Switching Center or Point of Presence (PoP). With Choice One's Metro Private Line service, Inter-Exchange Carriers (IXCs) can benefit from reduced backhaul charges, and decrease the mileage and expense of end user local loops. CLECs and IXCs can also take advantage of Metro Private Line to augment their Direct End Office Trunking - and CLECs can utilize this robust service for Inter-Office Facility transport.

Choice One Wholesale
- DSL with Backhaul or Internet
- Collocation
- PRI
- Dedicated Internet
- T1 Local Loops
- Dedicated Long Distance (1+, 800, and IDDD)
- Metro Private Line
- Private Line
- Integrated T1
- The Choice One Network
- Contact Choice One Wholesale

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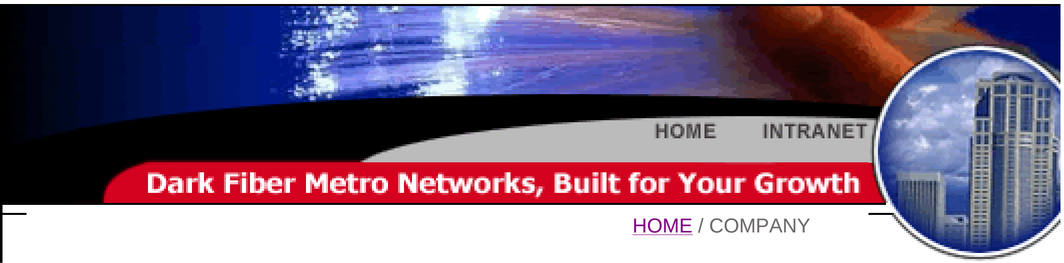
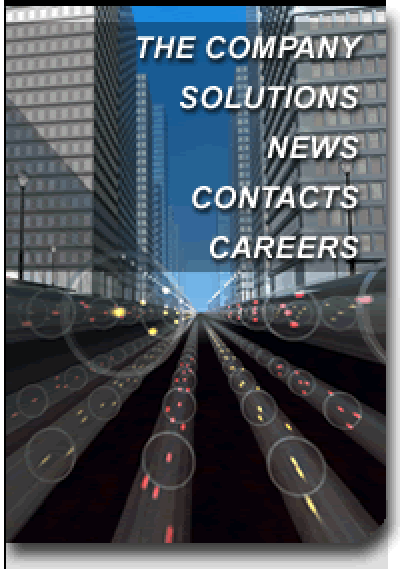
City Signal Communications

CITY SIGNAL
COMMUNICATIONS


HOME
INTRANET
Dark Fiber Metro Networks, Built for Your Growth

HOME / COMPANY



Click for
MAPS

The Company

Management Team
Board of Directors
Partners

City Signal Communications (CSC) delivers metro dark fiber solutions enabling service providers and enterprise customers to deploy broadband applications.

Located in key Mid Atlantic and Mid West markets, our multi-ring network architecture provides customers with last mile connectivity to key buildings in the central business district and suburban communities. As a result, our networks provide an affordable, flexible and dependable dark fiber solution with the ability to grow on demand.

CSC's networks meet the high demands of many types of service providers including, CLECs, ILECs, ISPs, wireless and next-generation providers utilizing xDSL and Gigabit Ethernet platforms. We facilitate the market entry or expansion of service providers by offering flexible pricing programs designed around the leasing of dark fiber strands on our metro networks.

Completed networks are available in Philadelphia, PA, Cleveland, OH, Richmond and Norfolk, VA, Wilmington and Newark, DE and Southern New Jersey.

Headquartered outside of Philadelphia, City Signal Communications is led by an experienced management team, is fully funded and focused on achieving our goal of enabling customers to break the bandwidth bottlenecks that exist in today's metro networks.

The Company | Solutions | News | Contacts | Careers | Home

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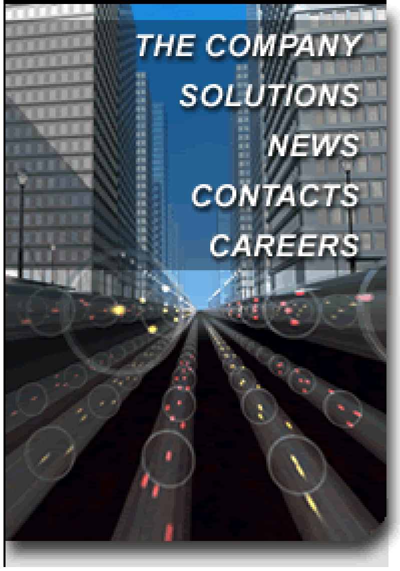
CITY SIGNAL
COMMUNICATIONS
HOME
INTRANET
Dark Fiber Metro Networks, Built for Your Growth

HOME / SOLUTIONS / CARRIERS



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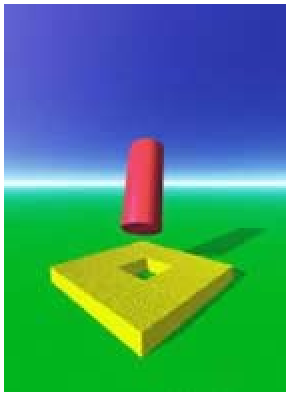
MAPS

Still trying to figure out how to expand your markets AND conserve capital?!?

Maps
Services
Sales Inquiries



Reduce your metro network's cost structure by using fiber from City Signal Communications. Why even consider spending your precious capital dollars on expensive, complicated and de-focusing construction projects. CSC allows you to do what you do best, which is to provide cutting edge communications services to your customers.

CSC's optical fiber backbone enables carriers of all types to offer on-net, facilities-based broadband services to their end users. CSC offers a simple but elegant value proposition of a future-proof network with virtually unlimited bandwidth and all at a fixed cost.

Our networks not only connect you to Central Offices, Carrier Hotels, Data Centers and other traffic aggregation points, but CSC also targets central business districts and suburban office parks. Our goal is to push the "edge" as close to the end user as possible, enabling more applications for our customers while controlling expensive building access costs.

For more information on how CSC can help you expand your company's footprint, please contact us at sales@citysignal.com.

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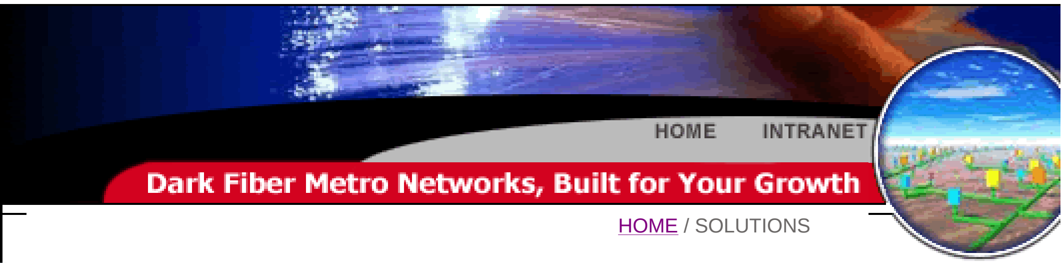
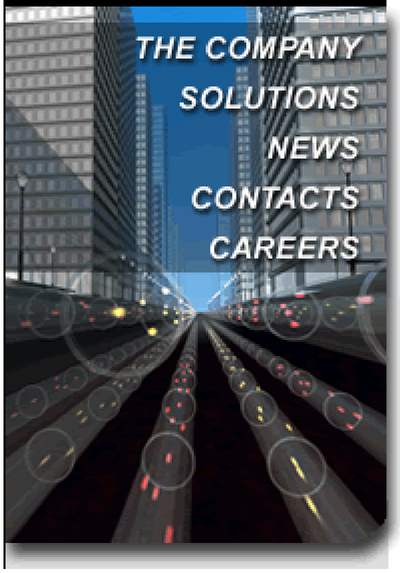
COMMUNICATIONS



HOME / SOLUTIONS



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MAPS

CSC Solutions

CSC is building extensive dark fiber metropolitan area networks in a number of mid-sized cities in the Mid Atlantic and Mid-Western regions of the United States. Our concentrated efforts have been focused on building metro networks in cities that are underserved in terms of a metro fiber infrastructure.

CSC currently has extensive networks in Cleveland, Columbus, Philadelphia, New Jersey, Delaware, Richmond, Virginia, Norfolk, Virginia and throughout the state of Delaware.

Our network design not only incorporates the obvious hubs such as Carrier Hotels, Central Offices, Data Centers and other such voice and data aggregation points, but we also target central business district and suburban office complexes.

CSC has also designed the networks to meet the economics of your network plan. We have designed the backbones to be redundant ring systems with the proper scale and distances so our customers can avoid expensive, long-reach optics to go between nodes.

CSC dark fiber solutions are a cost effective, long-term answer to any organizations networking requirements. Contact us to see how easy the CSC Solution can work for you.

Carriers
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Comcast

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Enterprise Internet Service

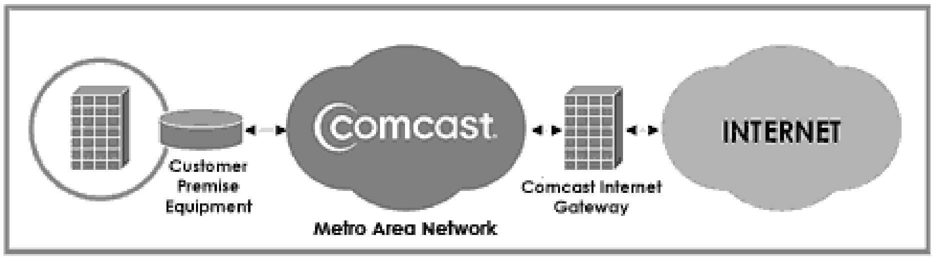
Scalable high-speed dedicated Internet access

THE SIMPLE FACTS

- Scaleable and symmetrical dedicated Internet access
- Ethernet interface for seamless integration into your LAN
- Flat rate pricing with no local loop charges

Cost-effective, symmetrical, dedicated Internet access that is easy and fast to upgrade. With Comcast, link your existing LAN infrastructure to the Internet and scale in 1Mbps increments with no traditional local loop charges.

Leverage our extensive fiber network for a reliable and scalable connection to the Tier 1 Internet backbone. With Comcast Commercial Services' Ethernet interface get true plug-and-play compatibility and turn the Internet into a responsive business machine.



Enterprise INTERNET Service can support large user populations and a wide range of applications. From e-mail and file sharing, to web hosting and streaming video, Comcast delivers the Internet directly to your door.

Service Features

- Tailored Bandwidth – Symmetrical dedicated Internet bandwidth configurable from 5Mbps to 1 Gbps in 1 Mbps increments.
- Multiple IP Addresses – Start with eight IP addresses and add addresses if needed.
- Domain Name System – Includes primary and secondary DNS service. Assistance provided to transfer existing domain names.
- BGP Routing Protocol (optional) – supports multi-homing with load balancing for faster, more efficient routing between networks.
- Web-based Reporting – Connectivity statistics with daily, 7-day and 30-day

Business Benefits

- Ease of Use – Connect your network directly to Comcast's and quickly and easily add additional bandwidth without the usual delays.
- High Availability – Minimize interruptions and keep your business running smoothly. We monitored your service 24X7 and have over 99.97% network availability.
- Optimized ROI – Reduce operating and maintenance costs with lower capital and operational requirements and provision only the capacity you need today.
- Minimized Risk – Deliver networking capabilities to your internal customers on-time and on-budget.

reports viewed through our secure web portal.

The advantages of high-speed dedicated Internet access are clear and with Comcast Commercial Services access is easy, cost-efficient, and tailored to meet your evolving needs.

For a more information, please contact us today or login to the Resource Center for application notes and other documents.

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Resource Center

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Telecommunications

Increasing Margins with Lower Transport Costs

Carriers are expanding their networks to complete coverage, increase QoS and grow market share. As a result they face rapidly increasing transport costs. Whether it is local loop charges or backhaul transport, carriers need to quickly address operational expenses to drive fiscal performance.

Carrier face other issues, like having limited configuration options and spotty coverage in residential and rural areas. While most networking companies can deliver in certain areas, very few have a wide footprint. Those that do have broader coverage, usually have rigid pricing structures and inflexible service configurations. Worst of all, you are often buying from a competitor or their parent company

Comcast’s services can be deployed quickly and efficiently with minimal wait and bureaucracy than you are typically confronted with when purchasing services from traditional telephone carriers. Comcast We offers carriers a range of services that can support your voice and data transport needs with much lower costs. From traditional TDM, ATM and SONET, to Ethernet and managed wavelength configurations, Comcast has a solution to meet virtually any requirement.

Our pricing structures aren’t impacted by LATA boundaries or local loop charges allowing us to offer more flexible terms. We can provision a tailored network that can rapidly scale so you don’t need to over-engineer for future demand.

Comcast Commercial Services leverages the massive network of our parent company. This allows you to have managed access on a carrier class transport network designed for broadband applications. Our reach is broad and deep, with capacity in dense urban, sprawling suburban and even many rural areas others can't reach. More importantly, Comcast's Network is not part of the traditional telecommunications infrastructure, allowing Comcast to offer a physically diverse routing.

Comcast Advantage
Lower-cost data and voice transport on a single company's fiber network with broad reach and technical and economic flexibility.

Carrier Benefit
Cost-effective transport that can reach into new markets and scale at a moments notice. A stable and reliable service from a trusted network provider.

Contact us today to find out how your transport needs and our capabilities can be meshed for the technical and financial benefit of your organization.

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PRODUCTS & SERVICES >>> POWERWAVE WAVELENGTH SERVICE

PowerWave Wavelength Service ▼ Markets ▼ Resources ▼

PowerWave Wavelength Service

PowerWave Wavelength Service is the alternative that network service providers seek for overcoming access and capacity constraints within the New York metropolitan area and beyond. It is the state-of-the-art fiber optic solution for addressing network logjams. CEC's PowerWave Wavelength Service provides a cost-effective, efficient way to increase network capacity.

PowerWave Wavelength Service Features

- 1.25 GB scalable to 10 GB Dedicated Protocol Transparent Capacity
- ITU standards-based DWDM equipment provides multi-vendor interoperability
- Restorable transport services for high reliability
- Protected - diverse, non-diverse
- Flexible configuration offering protected and unprotected transport
- 99.95% availability
- 24x7 monitoring and support
- Prime locations in the New York metropolitan area
- Supports Fibre Channel, EsCon, FiCon

Benefits

- Reduces time-to-market when expanding network capacity
- Provides a cost effective means for building diverse network protection
- Reduce costs by eliminating network management duplicity
- Predictable cost modeling for network build outs

View PowerWave Wavelength PDF

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Cox Business Services

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To find the services offered in your area:

Product Categories ▼

Internet/Data Services:

Choose a Service ▼

COX Business Services

Phoenix

Data Services

Private Line Services

Transparent LAN Services

Advanced Network Services

INTERNET/DATA SERVICE

Data Services

In today's increasingly complex world of computer networking, Cox Business Services offers an array of inter-networking solutions. Ranging from standard DS-1 and DS-3 private line services to advanced asynchronous transfer mode (ATM) switching systems, our data networking services fall into three primary categories:

- Private Line Services, such as DS-1, DS-3, OC-3
- Transparent LAN Services, including Ethernet and Token Ring
- Advanced Networking Services such as Fast Ethernet, FDDI, Frame Relay, ATM

Contact us for more information.

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To find the services offered in your area:

Product Categories

Internet/Data Services:

Choose a Service

Phoenix

Features -
Standard & Optional
Benefits
Specifications
Applications

INTERNET/DATA SERVICE

DS-1

A DS-1connection is a 1.544Mbps connection between a customer's PBX and the public switched telephone network (PSTN). This digital trunk interfaces directly with the PBX and can support up to 24 individual voice-grade trunks. DID, DOD and two-way trunks all can be delivered via a single interface. Delivered over Cox Business Services' fiber-optic-based network, the level of reliability and security once reserved only for the most sophisticated networking needs is now extended to local exchange service.

Contact us for more information.

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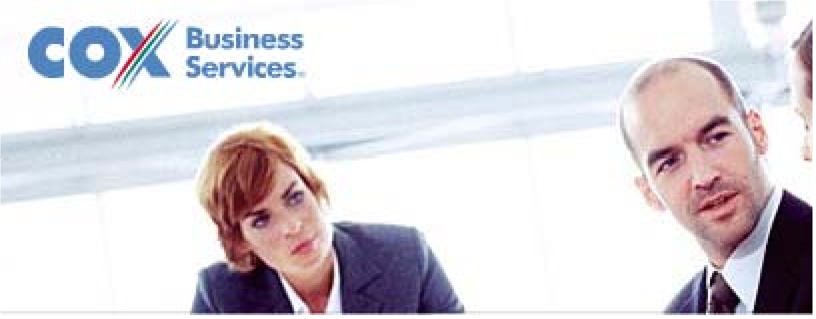

CARRIER SERVICE

Your Single Nationwide Source for Local Fiber Solutions When it comes to your ever-expanding network demands, it's all about access. And Cox Business Services helps you make the local connection with our state-of-the-art self-healing, redundant, ring-in-ring network. As an established leader in broadband communications, Cox offers the bandwidth and service you need to quickly, easily and reliably grow your existing networks or launch new ones.

Cox is a facilities-based provider, utilizing BGP routing over multiple connections to network access points (NAPs). We offer a pure point-to-point fiber optics connection from our network directly to your customers over a system architecture that ensures enhanced security, reliability and speed.

What's more, by owning and maintaining our network, we are wholly accountable, offering the simplicity and security of single-provider service.

Cox currently operates in over 20 major markets from coast to coast. More markets are being added throughout 2001 and 2002. View our Cox Carrier Services markets.

Products and Services:
Cox Carrier Services utilizes our local fiber backbone to deliver bandwidth speeds up to OC-48, giving you the speed and capacity you need to handle your customer's or network's bandwidth-heavy applications. We are also in the process of deploying Dense Wavelength Division Multiplexing (DWDM) technology in select markets for greater bandwidth capabilities. We offer several services for wholesale customers who need high-speed connectivity, including:

Cox Private Line Service: Provides point-to-point connections between points of presence (POPs). Connect your own points of presence or interconnect to another carrier, whether that carrier is an ISP, ILEC, IXC, CLEC, BLEC, or wireless provider. Cox offers you a choice of four high-volume, digital transmission bandwidths: DS-3, OC-3, OC-12 and OC-48. A network diagram can be viewed here.

Cox Carrier Access Service: Provides you with dedicated local loop access to your customers through hubbed, point-to-point private line connections. Cox Carrier Access consists of two components, a Carrier Interconnection Circuit and a Customer End Loop. Choose from two bandwidth levels on the Carrier Interconnection Circuit and four bandwidth levels on the Customer End Loop. A network diagram can be viewed here.

Carrier Interconnection Circuits connect the Cox POP to your POP and are available in OC-12 and OC-48 bandwidths. Customer End Loops connect your network to your customer's office or facility and are available in DS-1, DS-3, OC-3 and OC-12 bandwidths.

Both our Private Line and Carrier Access services are deployed over our SONET transmission equipment with electronic redundancy. Cox's self-healing network with path and electronic protection switching utilize fiber-optic rings with path diversity.

A Single Team Dedicated to Carrier Sales
Local access is important to you-important enough that Cox has formed a national team of experts that support you in every Cox market and who are solely dedicated to handling all aspects of your fiber solution. Cox's national account team typically consists of an Account Executive, Sales Order Administrator, Sales Customer Care Representative, Sales Billing Analyst and Sales Engineer. So, whether you are buying for one or multiple markets, the process is always simple and streamlined.

The national structure of Cox Carrier Services also affords flexible pricing options. By viewing your account on a national perspective, we often are able to provide significant volume discounts, making the most of your national buying power.

Should you ever need assistance, we're just a phone call away. Just call 1.877.669.3038 or contact us at cbs.carriersales@cox.com.

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Edison Carrier Solutions

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CARRIER SOLUTIONS℠
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EDISON'S NETWORK
SONET SERVICES
MANAGED WAVELENGTH SERVICE
DARK FIBER
WIRELESS CELL SITES

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Dark Fiber

Edison Dark Fiber is available as one or more optical fiber strands that can be licensed or leased to carriers who prefer the option of operating their own equipment and managing the service to their customers. Dark fiber is available in a multitude of routes in metropolitan area for use as a backbone network as well as in local loops that serve carrier hotels, carrier points of presence, and central offices. In addition to a variety of locations, routes are also available in several unique architectures that include collapsed ring, self-healing ring and star configurations to better serve your specific applications.

With Edison dark fiber, carriers will receive the benefits of an experienced ECS construction and maintenance work force as well as the peace of mind in knowing that they are available to be dispatched 24 hours a day, 7 days a week.

Fiber Attributes

Fiber optic cable capable of supporting:

- SONET/SDH
- DWDM
- ATM/IP
- Video applications and data center connectivity
- Standard Singlemode Fiber
- Attenuation of:
    .4 dB/km @ 1310 nm and
    .3 dB/km @ 1550 nm
- Arc fusion splicing

Value to your Business

- Control your network
- Establish your own protection schemes
- Manage your network scalability requirements

- Manage your network with your NOC

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El Paso Global Networks

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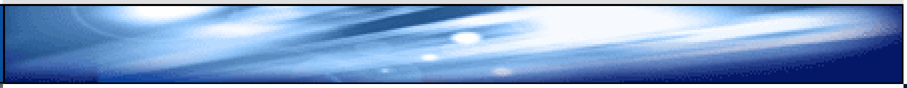
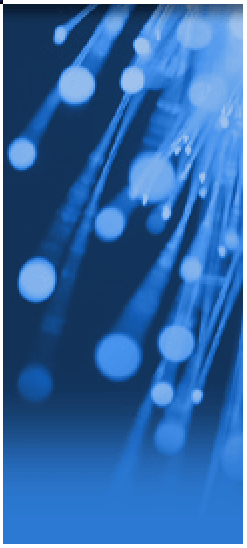
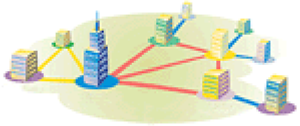




El Paso Global Networks > our products > EP Metro

EP Metro



EP Metro Solutions offers the quickest way through crosstown traffic.
El Paso Global Networks offers EP Metro Solutions, a wholesale high-speed private line transport service that delivers dedicated connectivity between two or more locations within the same city. EP Metro Solutions provides a flexible, managed solution for point-to-point or point-to-multipoint connections in all of the El Paso Global Networks gateway cities in Texas.

EP Metro Solutions Advantage
EP Metro Solutions offers an extremely effective way for your network to overcome its metro last-mile challenges. With unique flat-rate pricing plans and exceptional market coverage, EP Metro Solutions provides a cost-effective, reliable, and secure solution for all metro transport needs. Once a connection to our hub is established, your network will have access to the entire El Paso Global Networks' metro market, helping you avoid costly capital outlays.

Services
El Paso Global Networks offers bandwidth transmission rates ranging from DS-1 through OC-192 to fit your growing metro bandwidth needs. El Paso Global Networks offers connectivity to other carriers as well as 24/7 network monitoring and an account management team dedicated to providing superior customer service.

To request a service quote or learn more about how EP Metro Solutions can fulfill your bandwidth needs, call us at 1-866-463-5727.

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Fibertech Networks

Leading the way dark fiber optic networks are designed, built and operated within mid-size cities

» CARRIER SOLUTIONS

CAPITALIZE ON YOUR INVESTMENTS

In today's capital-constrained telecom market, there's a premium on lowering costs and tempering risks. Yet carriers must balance these challenges against raised revenue targets, speed-to-market and increased facilities-based deployment.

That's where Fibertech comes in. Our dark fiber metro networks can provide you with a myriad of cost-cutting benefits including:

- » Virtually unlimited bandwidth at a fixed cost
- » A flexible, competitive and customizable network configuration and cost structure
- » The ability to utilize technological advances to better manage traffic demand
- » Access to metro networks that include connections to virtually all central offices, POPs and data centers, and that are a short distance from its major office buildings and business parks
- » The advantage of being facilities-based, which can improve both margins and enterprise value
- » Increased provisioning times resulting in faster revenue realization

Competitive carriers must continue to invest in their business in order to exceed future growth expectations. So, whether you're interested in entering a market as a facilities-based provider or simply looking to bolster your serviceable footprint, a Fibertech dark fiber network can be your differentiator.

To learn more about our dark fiber connections, please complete our sales inquiry form and a Fibertech representative will contact you shortly.

Related Links

Fibertech
WE'RE MAKING BIG THINGS HAPPEN
AROUND MID-SIZE CITIES

View or Download our Capabilities Brochure
(PDF/776KB)

PDF **Log in to see a Sample Network Plan**

FPL FiberNet

FPL FiberNet

"Moving at the Speed of Light... F I B E R O P T I C T E C H N O L O G Y

...to get you connected everywhere you need to go"

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A Leading Provider of Fiber-Optic Technology

Wholesale service | One of the largest metropolitan fiber-optic networks in the U.S. | Highest quality | Customers

Wholesale service

We provide wholesale fiber optic service with bandwidth capacity from DS-3 to OC-192 for

- long distance companies
- CLECs
- BLECs
- ISPs
- ASPs and
- other communications related businesses within the major metropolitan areas of Florida.

One of the largest metropolitan fiber-optic networks in the U.S.

We offer more than 2,500 miles of high-count fiber with connectivity to more central offices, carrier hotels and international cable-heads than any other fiber wholesaler in the state.

Highest quality

We offer the highest quality dark fiber with the fastest possible transmission speeds. The ultimate in reliability is insured through our ring-based, intra-city networks using SONET-based architecture that is both

- redundant and
- geographically diverse.

Target customers

Our customers include virtually all service and telecom providers, as well as leading

- ISPs
- ASPs
- International Cable Carriers
- ILECs
- CLECs and
- hospitals, colleges, banks and other businesses.

TOP

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"Moving at the Speed of Light... FIBER OPTIC TECHNOLOGY ...to get you connected everywhere you need to go"

FPL FiberNet

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Why FPL FiberNet?

Virtually unlimited growth capacity | The most extensive inter- and intra-city network in Florida | Unsurpassed network reliability and redundancy | The most up-to-date technology | Expanding our network coverage

Virtually unlimited growth capacity

Your company's potential for growth is virtually unlimited with FPL FiberNet's products and services. We provide high quality metro dark fiber, inter- and intra city transport (DS-3 to OC-192), DS-3 and optical hubs, metro wavelengths as well as co-location facilities.

The most extensive inter- and intra-city network in Florida

We currently have more than 2,500 route miles of high-quality dark/lit fiber in Florida and access to more than 8,600 miles of fiber optic cable through partnerships with regional providers, making us one of the largest metropolitan fiber-optic networks in the United States.

Unsurpassed network reliability and redundancy

Our intra-city network is built utilizing SONET-based architecture that provides both geographically diverse routes and fully redundant SONET rings that eliminate network downtime.

The most up-to-date technology

We use dense wave division multiplexing (DWDM), which allows maximum scalability of your network.

Expanding our network coverage

FPL FiberNet has completed an aggressive metro buildout plan that includes connectivity to the NAP of the Americas and international cable heads. We are a founding member of the NAP of the Americas and the first to pull fiber in this location. Because we connect to the NAP, we can offer carriers connectivity to the Caribbean, South America, Europe and Asia.

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Grande Communications

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JERRY L. JAMES
PRESIDENT
Grande Communications

For you, the world.

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- WHOLESALE CLEC
- METRO ACCESS NETWORK
- PRIVATE LINE AND COLOCATION SERVICES
- ISP SERVICES

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Private Line Services

Grande Networks offers secure, reliable bandwidth services to carriers including Internet service providers (ISPs), local exchange carriers (ILECs and CLECs), interexchange carriers (IXCs), and applications service providers (ASPs).

A robust optical network comprised of state-of-the-art SONET ring technology, provides bi-directional, dependable and continuous service to meet your need for reliable service. Our Network Operation Control Center (NOCC) actively monitors our network 24 x 7 x 365 to assure consistent network performance and availability.

Colocation Services

Grande Networks offers colocation facilities and services in 19 metropolitan areas. Facilities and services in regional Points of Presence (POPs) are designed to meet your needs whether you are a carrier, integrated telecom provider or ISP.

Grande Networks' colocation facilities are leased by the rack or the square foot and come equipped with HVAC, redundant power supplies, security, 24 x 7 x 365 monitoring and seamless interconnection with major long haul carriers.

Sales Contact:

Jared Benson
Vice President, Grande Networks Sales & Marketing
(512) 878-5222
jared.benson@grandecom.com

VIEW OUR NETWORK MAPS:

- NATIONAL SWITCHING NETWORK
- PRIVATE LINE AND COLOCATION

BACKGROUND INFORMATION:

Network Background*

Network Bios*

Network Briefing*

Network Facts*

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OVERVIEW

Offering new expanded service in SBC/Ameritech and BellSouth areas, Grande Networks provides wholesale carrier and ISP services with one of the largest coverage areas in Texas.

Our wholesale division serves the integrated communication needs of other service providers and carriers by providing the underlying network products and services.

Carrier Services Include:

- Domestic and International Terminations
- National Directory Assistance
- Wholesale CLEC
- Metro Access Network
- Private Line and Colocation Services

ISP Services Include:

- Managed Modem
- Originating PRI

.

Headquarters
Grande Communications
401 Carlson Circle
San Marcos, TX 78666

Sales Contact
Jared Benson
Vice President, Grande Networks Sales
(512) 878-5222
jared.benson@grandecom.com

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METRO ACCESS NETWORK

Grande Networks is in the process of constructing our fiber network within and between the cities of Austin, San Antonio and Houston. Our networks target most Carrier POPs, major ILEC central offices, carrier hotels, central/suburban business centers, data centers, co-location facilities and CLECs.

Grande Offers 5 Categories of Metro Fiber services:

- Dark fiber indefeasible right to use (IRU)
- Dark fiber lease
- Network construction/lateral builds
- Metro access network capacity (DS-X, OC-N, Wavelengths)
- Co-location

Sales Contact:

Jared Benson
Vice President, Grande Networks Sales & Marketing
(512) 878-5222
jared.benson@grandecom.com

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ICG Communications

ICG Communications

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WE HAVE SOLUTIONS.

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  - Intercity Private Line
  - Special Access
  - SS7
- Partners First℠ Program
- Contact Sales

Misty, Customer Retention

CARRIER SERVICES

Our mission is to make sure that we grow to meet our customer's needs. Since 1986, ICG Communications has gone from a single CAP network in Denver to a provider of business communications nationwide.

ICG is committed to providing high-quality, reliable business communications. To help take your business where you want it to go, we've struck strategic agreements with several leading companies. Technological partnerships, such as Cisco Systems, continue to strengthen the fabric of our network, products and services.

However, we haven't forgotten our roots offering carriers Special Access, SS7, and Intercity Private Line services that guarantee them the reliable bandwidth they need in California, Colorado, Ohio, Texas, and various locations throughout the U. S.

TRUE STORIES FROM ICG

> "As a consultant, I award over 30 telecom contracts a year based on our clients' goals and objectives. I now have firsthand experience with ICG and am able to comfortably recommend ICG and its services. I am grateful to the representatives involved in providing a solution that would not affect our business or our operations with any downtime."
>
> Susann O'Bryan
> Trendzitions

Verizon Response - Exhibit 5.B.3

ICG Communications

SPECIAL ACCESS MEANS
DEDICATED BANDWIDTH AND NO BOTTLENECKS.

ICG CARRIER SERVICES

PRODUCTS COMPANY INVESTORS CUSTOMER SERVICE CAREERS CONTACT PARTNERS SEARCH

- **Product Overview**
- **Network Overview**
- **Corporate Services**
- **ISP Services**
- **Carrier Services**
  - Intercity Private Line
  - Special Access
  - SS7
- **Partners First^{SM} Program**
- **Contact Sales**

Joycelyn, Product Marketing

SPECIAL ACCESS

Each month your network demands grow. Which means you need additional bandwidth you can rely on. Our goal is to provide that access quickly, reliably, and - dare we say it - in a professional, friendly manner.

Special Access from ICG Communications offers a dedicated, intraLATA transport service connecting your Point of Presence (POP) to a carrier, POP, or customer designated end-user. Special Access can carry voice, data, and/or video traffic at DS-1, DS-3 and OC-N capacities. With all locations on the ICG network you realize the benefits of a self-healing network, full-time connectivity and 24/7/365 proactive monitoring of network activity, providing you with maximum reliability.

For consistent and dependable bandwidth, let ICG provide your Special Access.

BENEFITS

- Secure, private and dependable high-speed transport via ICG's high quality network.
- State-of-the-art SONET-based fiber optic network.
- End-to-end dedicated connectivity.
- Diversified access to multiple carriers.
- Save time and money with an individualized combination of services to optimize your network.

Telecommunications services provided by ICG Telecom Group, Inc., except in Texas where services are provided by ICG ChoiceCom, L.P.

FOR MORE INFORMATION

Click the banner or call
1-877-HELLO-ICG

Download Special Access pdf

Adobe Get Acrobat Reader

ITC Deltacom

ITC DELTACOM®

SEARCH Search GO

Company Information | Products + Solutions | Customer Care | Dealers/Alliances | Careers | Industry Relations

INTERNET ACCESS

For most businesses, reliable Internet access is no longer an option; it's a requirement. At ITC^DeltaCom, we know that reliable, fast access is essential for successful Internet communications. That is why we offer cost-effective, dedicated Internet access - from 64K to Gigabit and beyond.

Our 14,488 mile fiber optic network features 236 Points of Presence (POPs) for reliable access. In addition, our technicians proactively monitor your Internet connection to virtually eliminate access failure.

We want to connect your business to the world. With our dedicated access service, it's just a click away.

Internet Acceptable Use Policy
The ITC^DeltaCom Network may only be used for lawful purposes. Our Internet Acceptable Use Policy specifies the actions prohibited by ITC^DeltaCom to users of the ITC^DeltaCom Network.

For additional information, please contact your local ITC^Deltacom Branch Office, or call **1.800.239.3000**.

Products + Solutions
Integrated Packages
Voice
Data Connectivity
Internet Applications
  > Internet Access
  > Managed Firewall
  > Web Hosting
  > Data Assurance
Equipment & Systems
Colocation
Carrier
Residential

Business ☐ Carrier ☐ Residential ☐

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CARRIER

The obvious solution for reliability

Interstate FiberNet^{SM}, Inc (IFN), an ITC^DeltaCom company, is known as the dominant carrier in the southern United States. With an impeccable reputation for on-time delivery, cost-effective reliability, and state-of-the-art technology integration, we offer comprehensive carrier services to inter-exchange carriers, CLECs, LECs, ILECs, ISPs, and wireless carriers, including:

- Broadband Services
- Metro Network Services
- PRI Services
- Operator Services and Directory Assistance Services
- Data Services, ATM, and Frame
- Dark Fiber

Our carrier services portfolio incorporates a variety of technologies including local number portability (LNP) for local service using existing numbers and PRI services for ISPs. We own and operate 24 x 7 x 365 call centers featuring comprehensive operator services and national directory assistance. We also provide carriers with access to cost-effective DS1, DS3, and OC-n bandwidth capacities.

IFN has the largest network in the southern United States. Our network features Cisco GSR routers and fiber optic infrastructure that covers 14 states. With 236 POPs and unsurpassed network density, we provide reliable, high-speed access and connectivity for your customers. Multiple transit peering agreements with Tier1 providers allow us to deliver a redundant IP path with just a single connection to you, our customer. We use border gateway protocol (BGP) to establish efficient, loop-free routes with our Tier1 providers.

Our redundant network operations centers (NOCs) maintain the integrity of our network, 24 x 7 x 365.

ITC^DeltaCom has an exceptional reputation for reliability and deliverability. Please view our Fiber Optic, IP Backbone, PRI, and Frame Relay maps for a closer look at our network.

For additional information, please contact Interstate FiberNet at **706.385.8500**.

Products + Solutions
Integrated Packages
Voice
Data Connectivity
Internet Applications
Equipment & Systems
Colocation
Carrier
> Broadband Services
> Metro Network Services
> PRI Services
> OS/DA Services
> Data Services ATM and Frame
> IFN Agent Program
Residential

Business ☐ Carrier ☐ Residential ☐

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METRO NETWORK SERVICES

Interstate FiberNet Inc. (IFN), an ITC^DeltaCom® company, can provide metro capacity solutions to complement IFN's extensive SONET broadband network spanning 14,488 miles and touching 236 POPs throughout the southern states and eastern seaboard. Service offerings range from DS-1 (in select markets) through OC-48.

Ask your IFN account manager to provide pricing for metro capacity to carrier condos and Incumbent Local Exchange Carrier (ILEC) Central offices in the following cities.

Florida

Clearwater
Fort Lauderdale
Gainesville
Jacksonville
Miami
Orlando
St. Petersburg
Tampa
West Palm Beach
Winter Haven

Georgia

Atlanta

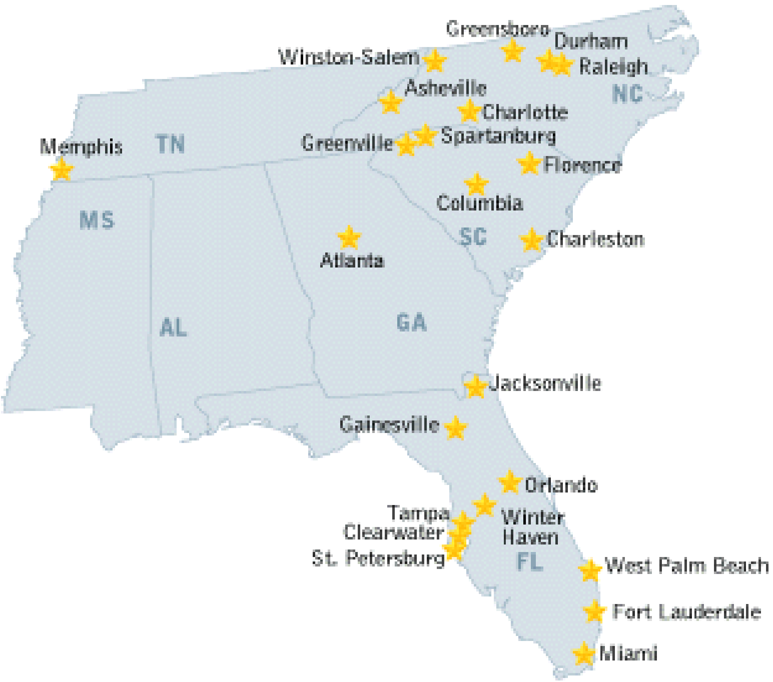
North Carolina

Asheville
Charlotte
Durham
Greensboro
Raleigh
Winston-Salem

South Carolina

Charleston
Columbia
Florence
Greenville
Spartanburg

Tennessee


Greensboro
Durham
Winston-Salem
Raleigh
Asheville
NC
Charlotte
Memphis
TN
Greenville
Spartanburg
Florence
Columbia
MS
SC
Charleston
Atlanta
AL
GA
Jacksonville
Gainesville
Orlando
Tampa
Winter
Haven
Clearwater
St. Petersburg
FL
West Palm Beach
Fort Lauderdale
Miami

Products + Solutions
Integrated Packages
Voice
Data Connectivity
Internet Applications
Equipment & Systems
Colocation
Carrier
  > Broadband Services
  > Metro Network Services
  > PRI Services
  > OS/DA Services
  > Data Services ATM and Frame
  > IFN Agent Program
Residential

Memphis

Additionally, IFN offers Extended Metro Services through interconnections with multiple CAPS in many of our transport POP locations.

For additional information, please contact Interstate FiberNet at **706.385.8500**.

KMC Telecom

KMC Telecom
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ADVANCED COMMUNICATIONS SERVICES

- Products and Services
  - BUNDLED VALUES:
  - KMC Phone & Feature Bundles
  - LOCAL SERVICES:
  - KMC Business Line Service
  - KMC Custom Calling Features
  - LONG DISTANCE SERVICES:
  - KMC Long Distance Service
  - ENHANCED SERVICES:
  - KMC Voicemail Service
  - KMC Voice Conferencing Service
  - DATA SERVICES:
  - KMC Special Access Service
  - KMC Dedicated Internet Access
  - KMC ISDN BRI-PRI Service
  - PRIVATE LINE SERVICES:
  - KMC Private Line Services
  - CARRIER SERVICES:
  - KMC Carrier Transport Services
  - KMC Carrier Terminating Access
  - KMC Collocation Services
- Network Resources
- Testimonials
- KMC Service Area Maps
- Nationwide Data Services
- KMC Home

Products and Serv

KMC Special Access Service

KMC Special Access Service services provide broadband capacity for data, video and high volume voice applications. These point-to-point digital channels operate c the KMC IntraCity SONET Fiber Ring that has been stategically constructed in the r economical location for the customer's connection.

KMC Special Access Services Available

- ***KMC Special Access Service*** DS-0
  Individual 64Kbps point-to-point digital channel
  56Kbps point-to-point digital channel
- ***KMC Special Access Service*** DS-1
  Digital channel operating at 1.544Mbps
- ***KMC Special Access Service*** DS-3
  Digital channel operating at 44.736Mbps
- ***KMC Special Access Service*** OS-N
  Sonet channel operating 50-150Mbps in 50Mbps increments

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KMC Telecom
PHONE • DATA • INTERNET

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KMC TELECOM

- How Can KMC Help You?
- KMC Service Area Maps
- Nationwide Data Services
- Advanced Communications Services
- KMC Home

Wholesale Services

Wholesale Telecom Solutions
for Your Company's Voice and Data Needs

KMC Telecom Wholesale Services - Your facilities-based full-service wholesale provider, offering a range of private line, switched and network outsourcing services to local, long-haul, wireless, cable and Internet Service Providers throughout the US.

KMC Telecom offers custom, timely, end-to-end solutions to help you minimize costs and extend your reach to meet your customer needs.

KMC's Wholesale Services portfolio delivers:

- A nationwide data platform, covering 1400+ cities currently (and expanding), for wholesale PRI, voice, and dialtone services
- 35 local, facilities-based fiber-optic networks in Tier II and Tier III cities, with over 1700 on-net buildings, and interconnects with major central offices and carrier points of presence (POPs). Click here to go to our website for a list of IXC POPs.
- Single-source solutions support - procurement and provisioning for bundled metro and long-haul solutions via regional and national long-haul partners
- Experience from a team of dedicated telecom industry professionals - network design, construction, implementation, provisioning and management
- The stability to assure long-term performance - all while providing competitively priced solutions with value unmatched by the competition.

Access/Facilities Services:
- Collocation Services
- Local Access (from DS-1 to OC-N)
- Origination/Termination Access
- Private Line Service
- Tandem Access

Voice and Data Services:
- Local and National PRI Services
- Toll-free Origination
- Wholesale Dialtone

Construction Services:
- Collo Construction
- POP Construction
- Lateral Builds

Wholesale Services:

- Meeting the specialized needs of International Carriers, Wireless Carriers, IXCs, ISPs, Cable MSOs and Utility/Power companies
- The KMC Wholesale Team: Vision and Experience
- KMC Telecom Wholesale Services
- Customer Service

Come meet us at the Trade Shows Wholesale Services will be attending:

- CompTel/Ascent Alliance - February 9, 2004 thru February 11, 2004
- MetroNorth Connect - March 23, 2004 & March 24, 2004
- USTA - May 3, 2004 thru May 5, 2004

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NATIONWIDE DATA SERVICES

- Capabilities and Solutions
  - Cable MSOs
  - ISPs
  - IXCs
  - Utility and Power
  - Wireless Carriers
- Infrastructure and Resources
- KMC Solutions
- KMC Service Area Maps
- Advanced Communications Services
- KMC Home

Capabilities & Solutions

IXCs

KMC's extensive, high-performance fiber network in 35 cities, and our world-class project management and outsourcing skills, offers IXCs ways to reduce costs in local operations and augment their transport capabilities.

With our world-class network facilities in 35 cities, KMC Telecom can serve as a more cost-effective resource than ILECs for a variety of needs, including:

- Dedicated network access (T1 and up) for your clients in our serving cities. KMC Telecom offers you highly responsive service and provisioning, and more attractive rates.
- Local service connections. KMC can provide last-mile access for your local telephone service offering in our serving cities.
- Transport optimization. To complement your existing infrastructure, or simplify buildout and expansions, KMC can provide fiber capacity as well as alternative solutions such as microwave links.

For more information, call 877.562.6285 to speak with one of our dedicated team professionals.

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Level 3 Communications, Inc.

Verizon Response - Exhibit 5.B.3

Services Partners Customers Investors About Us Home

(3)Link Metro Private Line

SERVICES

Voice Services

Select a Service

Softswitch Services

Select a Service

Internet Services

Select a Service

Data Services

Select a Service

Transport Services

Select a Service

Infrastructure Services

Select a Service

Managed Services

Select a Service

Overview Brochures

(3)Link® Metro Private Line

Part of Level 3's family of Metro Services Trusted by the Experts

Level 3's complete portfolio of metro offerings includes (3)Link Metro Dark Fiber, (3) Link Metro Wavelength, (3)Link Metro Private Line, and (3)Link Metro Ethernet services — all of which have a proven track record with the most sophisticated and demanding customers in the world. In fact, nine of the top 10 global telecom companies, nine of the top 10 consumer ISPs in the U.S., six of the top seven U.S. wireless carriers, and three of the top four global fixed satellite operators rely on Level 3's metro services.

"Our research suggests that Level 3 has begun to establish market share in the metropolitan area services. Level 3 is well-positioned to become a market leader in metro services, just as it has become a top-tier competitor in the long-haul service."

— J.P. Gownder, Senior Analyst, The Yankee Group

These customers continue to turn to Level 3 for the following reasons:

Stable and Reliable Partner: Level 3, a Fortune 500 company, has proven to be a financially stable company for the long term. Level 3's partnership commitment to its customers is at the core of its strategy. Level 3's success relies on the success of its customers.

Customer- and Solutions-Focused: Level 3's partnership commitment is reinforced in its customer- and solutions-focused organizations. In addition to mobilizing dedicated account teams that understand customer businesses, the company offers an unmatched level of design collaboration with customers through its world-class design team, which consists of dedicated Sales Engineers and a Network Architecture team. Responsible for the design of Level 3's own network, the Network Architecture team has worked with customers to help design some of the most sophisticated networks in the world.

Flexibility, Availability, and Cost Savings: With customer needs in mind, Level 3 designed its metro services to meet key requirements for flexibility, availability, and cost savings.

Service Overview

(3)Link Metro Private Line service is a dedicated, point-to-point, protected metro transport service offered at line rates of DS-3, OC-3, STM-1, OC-12/12c, STM-4/4c, and OC-48/48c. The service is available in 27 markets in North America and nine markets in Europe.

Level (3) COMMUNICATIONS

Metro Services
Trusted by the Experts

(3)Link® Metro Ethernet
(3)Link® Metro Private Line
(3)Link® Metro Wavelength
(3)Link® Metro Dark Fiber

Click here for details

SEARCH

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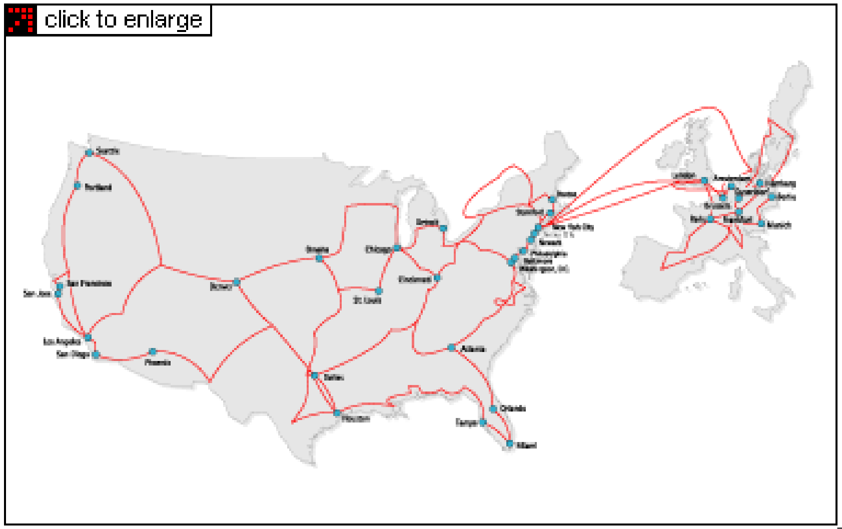
Related Links and Materials:

- (3)Link Metro Private Line Service Overview Brochure
- (3)Link Metro Family of Services Overview Brochure
- Level 3 and the Satellite Industry Overview Brochure
- "Taking Control of Your Capacity" Webcast

SALES HELP
Click here for help
or call: 1-877-2LEVEL3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Seattle
Portland
San Francisco
San Jose
Los Angeles
San Diego
Phoenix
Denver
Omaha
Chicago
Detroit
Cincinnati
St. Louis
Dallas
Houston
Atlanta
Orlando
Tampa
Miami
Boston
Stamford
New York City
Newark
Philadelphia
Baltimore
Washington, DC
London
Amsterdam
Hamburg
Dusseldorf
Berlin
Brussels
Paris
Frankfurt
Munich

(3)Link Metro Private Line service is uniquely designed to meet requirements for flexibility, availability, and cost savings.

Flexibility: With a broad metro footprint and comprehensive metro transport services portfolio (dark fiber, wavelength, private line, and Ethernet services), Level 3 gives customers the flexibility to choose the best solution for their needs today. And Level 3 allows customers to easily migrate between transport services as needs change. Level 3 is interconnected with key high-bandwidth sites, including more than 100 LEC COs; major peering and traffic exchange sites; key cable MSO, wireless, and ISP locations; and cable landing and teleport sites.

Customers also have the flexibility to extend their metro networks into long-haul designs (or vice-versa) using a single provider with Level 3's capability to seamlessly interconnect (3)Link Metro Private Line service with its suite of long-haul IP and transport services.

Availability: Customers can count on Level 3 providing a highly available service with 12-month actual availability averages of 99.999% for protected services and 99.95% for unprotected services. Level 3's underlying network has physically diverse routes with no collapsed rings, as well as physically diverse laterals, entrance facilities, and risers.

Level 3 is fully committed to fiber protection and security. The company has an in-house cable protection bureau that proactively prevents risky digs. Last year, the team processed more than 1.2 million cable locate requests and dispatched field technicians more than 115,000 times. Level 3 also has implemented tight security with biometrics and photo ID access card systems in its locations.

Cost Savings: (3)Link Metro Private Line service is designed to save money. The service eliminates investments necessary to deploy and maintain a network protection scheme. It reduces operations costs for managing the physical network. And it saves money for training because private lines are well-known and widely deployed.

Services Partners Customers Investors About Us Home

(3)Link Dark Fiber

SERVICES

Voice Services

Select a Service

Softswitch Services

Select a Service

Internet Services

Select a Service

Data Services

Select a Service

Transport Services

Select a Service

Infrastructure Services

Select a Service

Managed Services

Select a Service

Overview Brochures

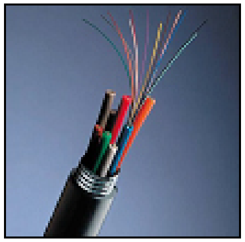
Related Links and Materials:

(3)Link Dark Fiber Service Overview Brochure

(3)Link Metro Family of Services Overview Brochure

(3)Link Dark Fiber Off-Net Lateral Service Overview Brochure

(3)Link® Dark Fiber



More Than Just Fiber

At Level 3, dark fiber is not a commodity. Our (3)Link Dark Fiber service gives you precise and powerful interaction with your fiber network. We offer you more than just the fiber.

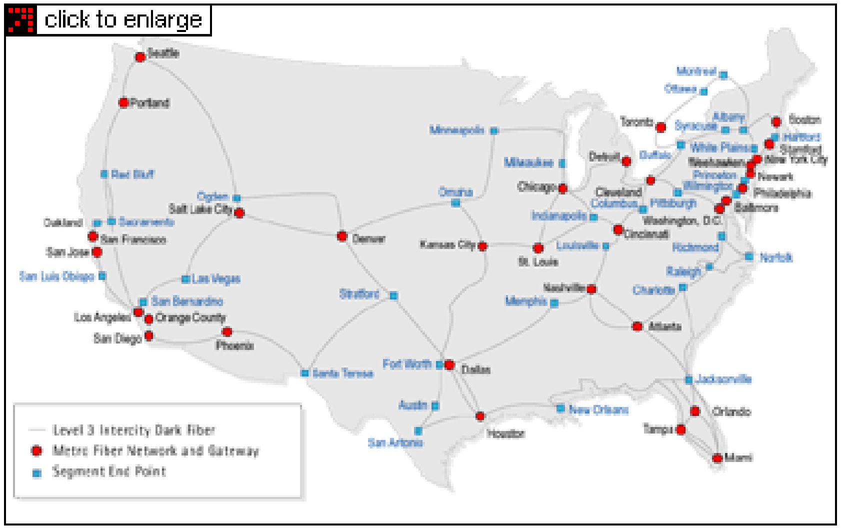
A Total Solution

Level 3 is the only provider complementing its intercity fiber with extensive metro fiber. The result is a true end-to-end fiber solution from one provider.

North American Metro and Intercity Dark Fiber Network

- Approximately 24,000 intercity route miles in North America
- 33 metro fiber markets
- Network traverses more than 150 cities
- Diverse with no single points of failure
- Multi-conduit (10–12), high-fiber-count infrastructure
- 4,000 route miles of metro fiber
- Ability to access more than 550 on-net buildings
- Convenient and easy interconnection options

click to enlarge


Seattle
Portland
Red Bluff
Ogden
Salt Lake City
Oakland
Sacramento
San Francisco
San Jose
San Luis Obispo
Las Vegas
San Bernardino
Los Angeles
Orange County
San Diego
Phoenix
Denver
Minneapolis
Milwaukee
Omaha
Chicago
Kansas City
St. Louis
Indianapolis
Louisville
Detroit
Toronto
Buffalo
Cleveland
Columbus
Pittsburgh
Cincinnati
Washington, D.C.
Richmond
Norfolk
Raleigh
Charlotte
Nashville
Memphis
Atlanta
Stratford
Santa Teresa
Fort Worth
Dallas
Austin
San Antonio
Houston
New Orleans
Jacksonville
Orlando
Tampa
Miami
Montreal
Ottawa
Albany
Syracuse
Boston
Hartford
Stamford
White Plains
Weehawken
New York City
Newark
Princeton
Wilmington
Philadelphia
Baltimore
Level 3 Intercity Dark Fiber
Metro Fiber Network and Gateway
Segment End Point

Metro Services
Trusted by the Experts

(3)Link® Metro Ethernet
(3)Link® Metro Private Line
(3)Link® Metro Wavelength
(3)Link® Metro Dark Fiber

Click here for details

Take Your Vacation...

...While We Build
Your Network.

10 Gbps in 10 Days

SEARCH

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Verizon Response - Exhibit 5.B.3

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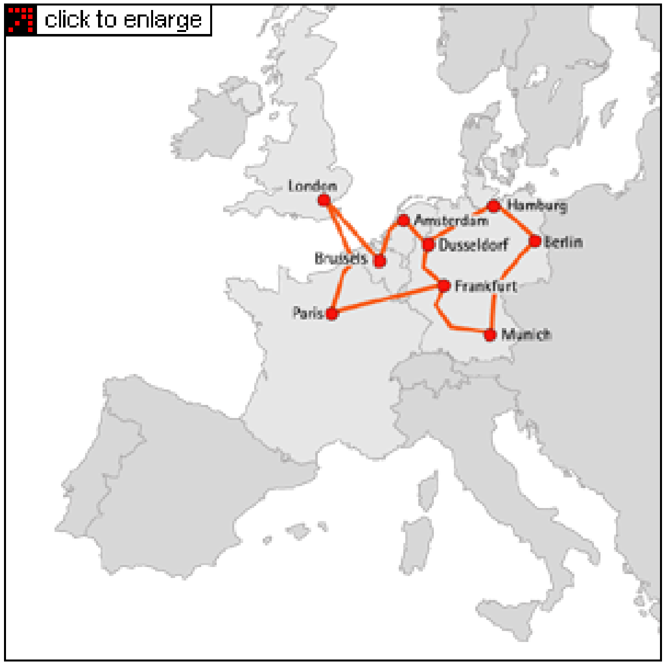
Click here for help
or call: 1-877-2LEVEL3

TOP

European Dark Fiber Network

- Approximately 3,600-route-mile Pan-European Network
- 9 metro fiber markets
- Segments traverse 60 European cities
- 6-12 conduits on each European intercity route
- Network comprised of 37 loops
- Diverse with no single points of failure
- Access to more than 90 strategic "On-Net" buildings


click to enlarge
London
Hamburg
Amsterdam
Dusseldorf
Berlin
Brussels
Frankfurt
Paris
Munich

Click here to view the metro buildings list.

Beyond the Fiber Itself

SLA-Backed Operations and Maintenance

Level 3 processed over 1.2 million cable-locate requests in 2003 and dispatched our technicians over 115,000 times to "mark the route" to prevent cable cuts. One of the reasons we protect our cables so thoroughly is that our own lit services are riding on them. Level 3 offers industry-leading reliability including:

- Intercity network service-affecting events at 1/4th industry average
- Metro network service-affecting events at 1/7th industry average
- Mean Time to Restore (MTTR) 50% better than industry average

We back our capabilities by offering customers Service Level Credits for our MTTR commitments. If a fiber cut is not repaired within 12 hours, you will receive a 1% credit off your monthly operations and maintenance for the affected segment or loop for each hour over 12 hours (capped at the monthly amount for the affected segment or loop).

ONMAP^{SM}

Level 3 provides customers with online, accurate "as built" diagrams with visibility down to the manhole through our Online Network Mapping and Planning interface (ONMAP). With this unique tool, you don't have to wait for a field survey every time you have a network planning change. The ONMAP capability provides accurate transparency to our entire fiber inventory.

Unmatched Off-Net Lateral Construction

Experience and Expertise

Through the management of construction of our network and over 650+ laterals, Level 3 is an undisputed expert in off-net lateral construction.

Accurate Estimates and Timing Backed by SLAs

Level 3's experience, combined with our network transparency, allows us to accurately estimate builds. In 2003, Level 3 delivered 200 customer construction orders with an on-time delivery rate greater than 95%. We back this expertise with three guarantees:

1. Level 3 commits to on-time delivery of on-net service. In the event of a late delivery, we offer credits starting immediately after the Customer Commitment Date (CCD) is missed. The credit is calculated at 1% of the value of the IRU for each 15 days late, capped at 5% of the IRU value.

2. Level 3 commits to on-time delivery of off-net lateral builds. In the event of a late delivery, we offer credits starting 60 days after a Customer Commitment Date (CCD) is missed. The credit is calculated at 1% of the value of the build for each 30 days late, capped at 3% of the build value.

3. Level 3 offers a firm fixed price for all projects under $200,000.

These guarantees mean that with Level 3, you can actually budget and plan for your networking needs.

Best-In-Class Service

All (3)Link Dark Fiber customers receive:

- A program manager to be your single point of contact to coordinate, budget, and deliver your solution
- Dedicated field personnel in 35 markets, with local expertise for managing contractors and municipality permits for you
- 24 x 7 security-monitored Gateway facilities
- (3)Tech^{SM} field technical services, which let you dispatch Level 3 technicians at any colocation or running line site

Perhaps Level 3's commitment to delivering more than just the fiber lies at the heart of why seven of the ten world's largest telecommunications companies use (3)Link Dark Fiber services.

TOP

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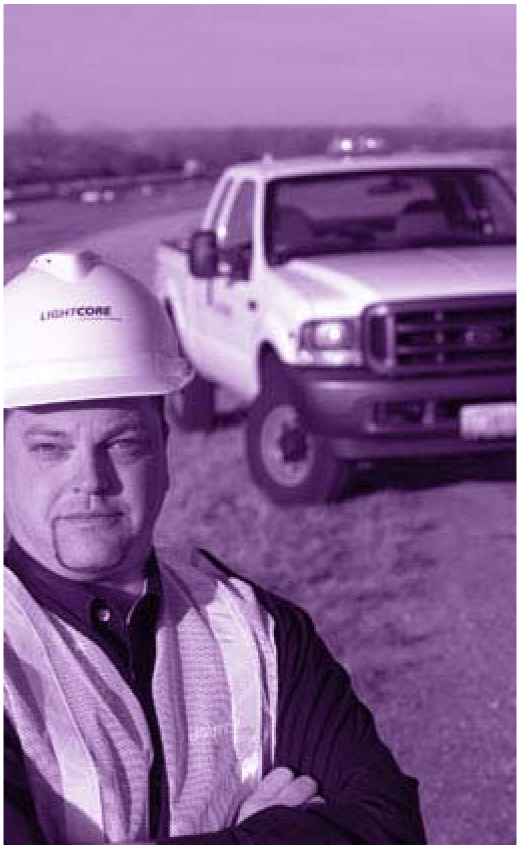
Lightcore

Verizon Response - Exhibit 5.B.3

LIGHTCORE
A CenturyTel Company

network
overview
custom solutions
network map



Overview
Network

LightCore owns, operates and maintains one of the most extensive fiber optic networks in the Central U.S., currently totaling more than 10,000 route miles spanning 15 states, constructed on secure and largely exclusive rights of way. The network links dozens of smaller, underserved markets with major hub cities, and provides competitive access to key bandwidth aggregation points in metropolitan areas.

Because LightCore is a carriers' carrier, our network has had to meet the high-standards of our customers; the nation's largest telecommunications companies. These companies have learned that they can rely on our network to perform like one of their own.

Skilled technicians in our Network Operations Center monitor the network to ensure optimal performance 24 hours a day, 365 days a year. Field technical support personnel are pre-staged at strategic locations along our fiber routes to maintain the network integrity and to quickly respond to any and all emergencies.

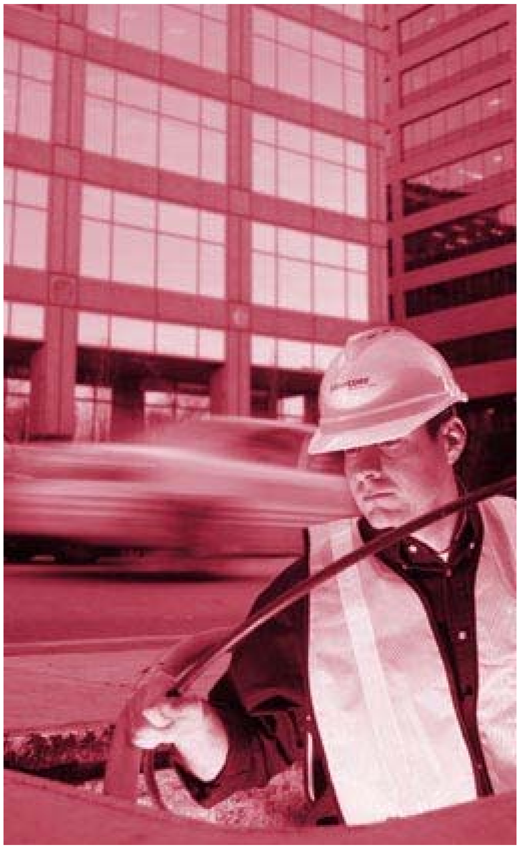
Our network currently spans over 100 points-of-presence (POPs) at key locations in both large and small markets throughout the Central U.S. Network connectivity is provided to private IXC POPs, major carrier hotels, key serving wire centers and mobile telephone switching offices, as well as a growing number of multi-tenant office buildings.

This site uses Flash. Please click here to download the latest plug in.

LIGHTCORE
A CenturyTel Company

services

- wholesale services
- private line
- metro area networks
- optical wavelength
- metro ethernet
- dark fiber



Private Line
Services

LightCore offers dedicated point-to-point private line services in bandwidth increments from DS-1 to OC-192. Unless otherwise specified, all private line services are provided over self-healing, ring-protected Sonet network architecture.

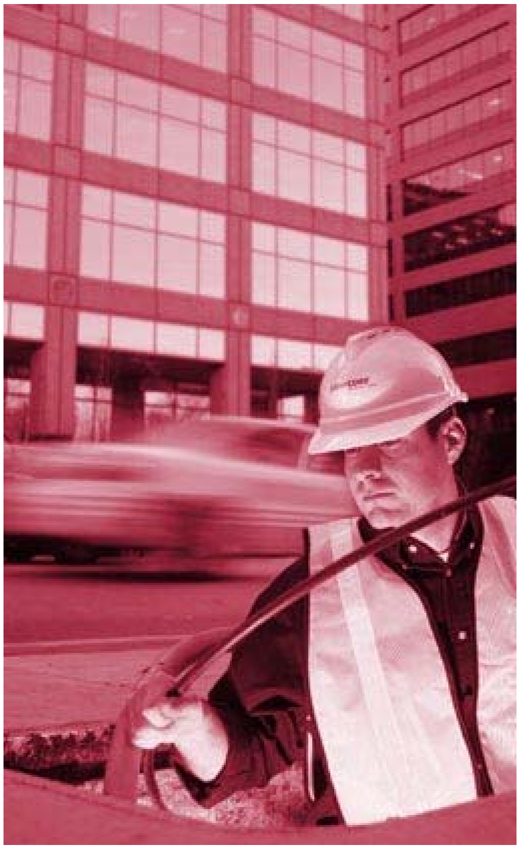
This site uses Flash. Please click here to download the latest plug in.

Verizon Response - Exhibit 5.B.3

LIGHTCORE
A CenturyTel Company

services

- wholesale services
- private line
- metro area networks
- optical wavelength
- metro ethernet
- dark fiber



Wholesale Services

Services

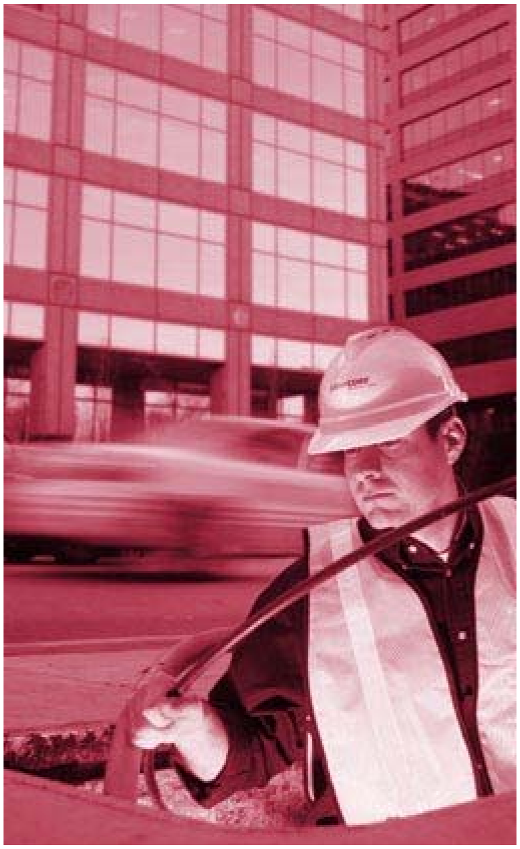
LightCore provides a full-range of transport services designed specifically to meet the requirements of telecommunications carriers. Our unmatched reliability and flexibility have made us the off-net provider of choice for the nation's leading IXCs, ISPs, CLECs and Wireless Services Providers.

This site uses Flash. Please click here to download the latest plug in.

LIGHTCORE
A CenturyTel Company

services

- wholesale services
- private line
- metro area networks
- optical wavelength
- metro ethernet
- dark fiber



Dark Fiber
Services

Surplus dark fiber assets are occasionally available for purchase on selected routes and in selected markets. Ask your LightCore account representative for the most current list of available fiber assets.

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Verizon Response - Exhibit 5.B.3

LIGHTCORE
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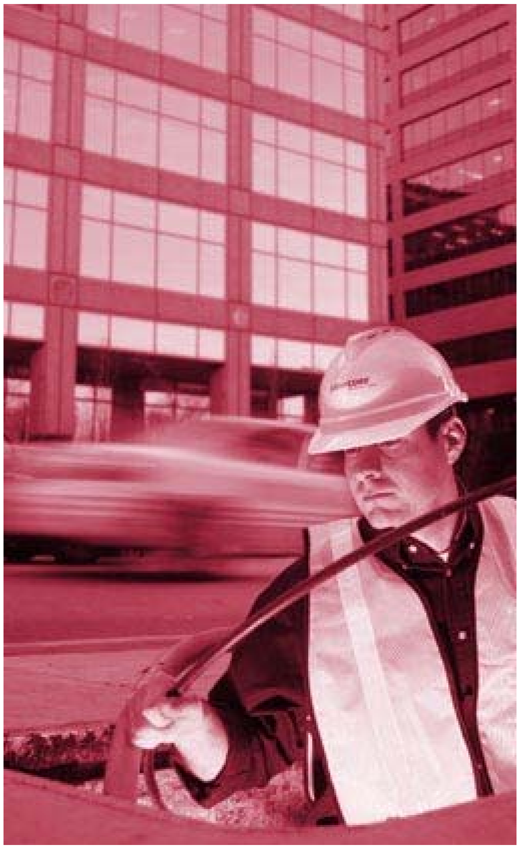
services

- wholesale services
- private line
- metro area networks
- optical wavelength
- metro ethernet
- dark fiber



Metro Area Networks

Services

LightCore operates Metropolitan Area Networks (MANs) in a growing number of key markets throughout its central U.S. service area. Each MAN is designed to interconnect major bandwidth aggregation points such as serving wire centers, IXC POPs and neutral co-location facilities. In a number of markets, the MAN extends into major multi-tenant office buildings, corporate campuses, medical centers and other key locations.

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Data

Products &

Businesses are increasingly reliant on networks to support complex applications such as Enterprise Resource Planning, Customer Relationship Management, and Electronic Data Interchange. Your business network must deliver fast, reliable, and flexible data transmission. To accommodate the bandwidth demands of today's business environment, Lightpath offers standard T-1 access through enterprise-scale OC-12 floodgates, delivering end-to-end service your company can count on.

For when a traditional point-to-point meshed network just isn't enough, Lightpath also offers Asynchronous Transfer Mode (ATM), Frame Relay, and Metro Ethernet services to support demanding high-speed data requirements.

- **ATM**
- **Frame Relay**
- **Metro Ethernet**
- **Private Line**
- **VPN**
- **Frequently Asked Questions**

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Private Line

Products & Servic

DS1
Description > Applications

DS3
Description > Applications > Benefits

Description of DS1 Service
DS1 (or T-1) private lines are digital channels that transmit data at a speed of 1.544 Mbps. At such speed, Lightpath's network backbone, which operates on single-mode fiber optic cable, is fully supported and protected by self-healing SONET architecture. Lightpath deploys OC-3, OC-12, and OC-48 rings. The ring architecture consists of two fiber, bidirectional, circuit-switched rings with a separate fiber terminal or set of terminals at each location.

Each DS1 line can be subdivided into 24 voice-data channels. The equipment used for breaking the 24 channels out of a Lightpath node (or "channelizing" at the customer site) is a digital loop carrier—a low-end multiplexer used to connect various customer services via a T-1 circuit.

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Applications
Lightpath's DS1 service offers the following advantages:

- **High-Volume Traffic.** Lightpath's DS1 service is designed for customers who experience a high volume of traffic through their IXC (interexchange carrier) or other locations. This super-efficient service is traditionally used

- **ATM**
- **Frame Relay**
- **Metro Ethernet**
- **Private Line**
- **VPN**
- **Frequently Asked Questions**

by corporations, universities, and government agencies for their local-area network (LAN) interconnections and backbone networks.

- **Cost-Effective Delivery.** Lightpath's SONET multiplexers accommodate from one to 48 DS3s, with the requisite number of channel banks to provide cost-effective delivery of the DS1 service.
- **Maximum Transmission Reliability.** The SONET equipment also provides maximum transmission reliability through the physical redundancy and diversity of all transport facilities and terminal equipment. Rings provide redundant bandwidth and/or equipment to ensure system integrity in the event of transmission or timing failure—including cuts in the fibers or node failure. Traffic entering a path-switched ring node is sent onto both rotations of the ring.

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Description of DS3 Service

Lightpath's DS3 private line service is ideal for interexchange carriers and companies with heavy telecommunications traffic. DS3 (or T-3) circuits may be used on a point-to-point or hubbed basis, and are capable of transmitting at speeds of up to 45 Mbps.

Lightpath's fiber optic backbone is fully supported and protected by self-healing SONET architecture. DS3 digital circuits may be channelized to support 28 DS1s, or they may be subdivided into 672 voice-grade equivalent channels.

Applications

Lightpath's DS3 service offers the following advantages:

- **Heavy Telecommunications Traffic.** Lightpath's DS3 service is designed for interexchange carriers and large companies with heavy telecommunications traffic.
- **Point-to-Point Connectivity.** Ideal for any company that uses voice, data, or image services heavily.
- **Voice and Data Services.** Both services can by used simultaneously or transmitted alternately through each circuit.
- **Bulk Data Transfer.** Increased throughput is achieved by transmitting large quantities of digital data to customer locations at high speeds.
- **Video Transfer.** Video data can be transmitted in slow scan mode.

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Benefits

Lightpath's Private Line services offer businesses the following benefits:

- **Decreased Cost.** Provides a cost-effective private line solution for customers who have a high volume of data and voice applications.
- **Added Protection and Diversity.** Lightpath can construct a diverse cable entrance into the building, providing an alternate route for added protection.
- **High Network Availability and Low Error Rate.** Lightpath has an overall network availability of 99% and an error-free second rate of 99% or better. The Lightpath bit-error rate is less than one error bit per 100 billion.
- **SONET-Level Protection.** Network protection is achieved through dedicated network circuits for dormant capacity. Lightpath also provides instant disaster recovery to customers who request a backup line. Lightpath's self-healing SONET architecture provides bidirectional routing, which restores service within 50 milliseconds and eliminates the downtime associated with both fiber cuts and network failure.
- **24-Hour-a-Day, 7-Day-a-Week Network Management.** Lightpath's network is monitored around the clock at our network management center (NMC).The NMC provides real-time alarms, as well as status and performance information for all circuits and equipment within Lightpath's intelligent optical network. In the event of circuit or equipment failure, Lightpath's NMC can delete damaged circuits and/or re-route traffic to a clear, redundant path. Our NMC performs loopbacks for remote, end-to-end testing and monitoring of a customer's circuits—even when a portion of the circuit is not carried over Lightpath's network.

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Carriers & ISPs

Products & Services

Today, service providers are being asked to supply more than just connectivity. Businesses rely on their carriers for content hosting, data mirroring, and data backup. Regardless of whether service providers extend their offerings to include these types of services or are looking to adhere to core competencies, network performance can only be guaranteed by the delivery of foolproof, high-capacity connectivity.

Lightpath's Service Provider Solutions focus on the specialized needs of the carrier industry, providing service to wireless providers, local exchange carriers, Internet service providers (ISPs), as well as both national and international carriers. Lightpath uses a growing, fiber optic network that includes Lucent switches, and more than 50 hubs in the area's major carrier hotels; because of this, Lightpath can provide carriers throughout New York, New Jersey, and Connecticut with transport services ranging from Ethernet (10M, 100M, GigE) and DS-1 to OC-192 (Wave Division).

With Lightpath, service providers are able to:

- Leverage the manpower, facilities, and resources of a company with more than 16 years of experience in engineering and operating fiber optic networks.
- Accelerate entry into new businesses and markets by utilizing Lightpath's existing all-fiber infrastructure.
- Avoid business risks associated with older network technologies.
- Access a team of network management engineers that will pinpoint and resolve any network problems 24 hours a day, 7 days a week, 365 days a year.
- Confidently implement and uphold customer service agreements.
- Ensure against disaster and provide redundancy using a self-healing, synchronous optical network (SONET) network.

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Looking Glass Networks

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FastGLASS
EtherGLASS
WaveGLASS

Dark Fiber

Collocation

Design and Construction

Company Brochure PDF

Lit Bandwidth

We provide the metropolitan data transport services you need - where, when and how you need them. Our end-to-end, redundant networks offer the full spectrum of SONET/SDH, Ethernet and Wavelength services on our flexible, application-neutral optical platforms - speeds ranging from 1.544 Mbps to 10 Gbps.

Our networks offer connections to major data aggregation facilities and enterprise buildings, ensuring reliable service and access to IXC, ISP, ILEC and CLEC locations as well as Web hosting facilities and data centers. Because we own and operate our networks, we can build to the location of your choice, meeting your specific needs. With all our services, you receive consistent fast provisioning, well-placed connectivity and high levels of security and responsiveness.

Product Features

- Consistent rapid provisioning times
- Extensive menu of services
- Vast connectivity with build-out capability
- Unparalleled scalability and flexibility
- Simple migration to higher speeds
- Physical diversity from other fiber providers

Types Of Services

- FastGLASS SM SONET/SDH services
- EtherGLASS SM Ethernet services
- WaveGLASS SM Wavelength services

Product Brochure

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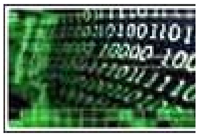
For more information contact: sales@lglass.net or call 1-866-778-LGN1(5461)

Lit Bandwidth



SONET/SDH, Ether
Wavelength service
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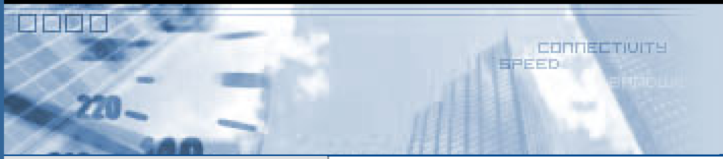


Our Network

Network Map

Architecture

NOCC

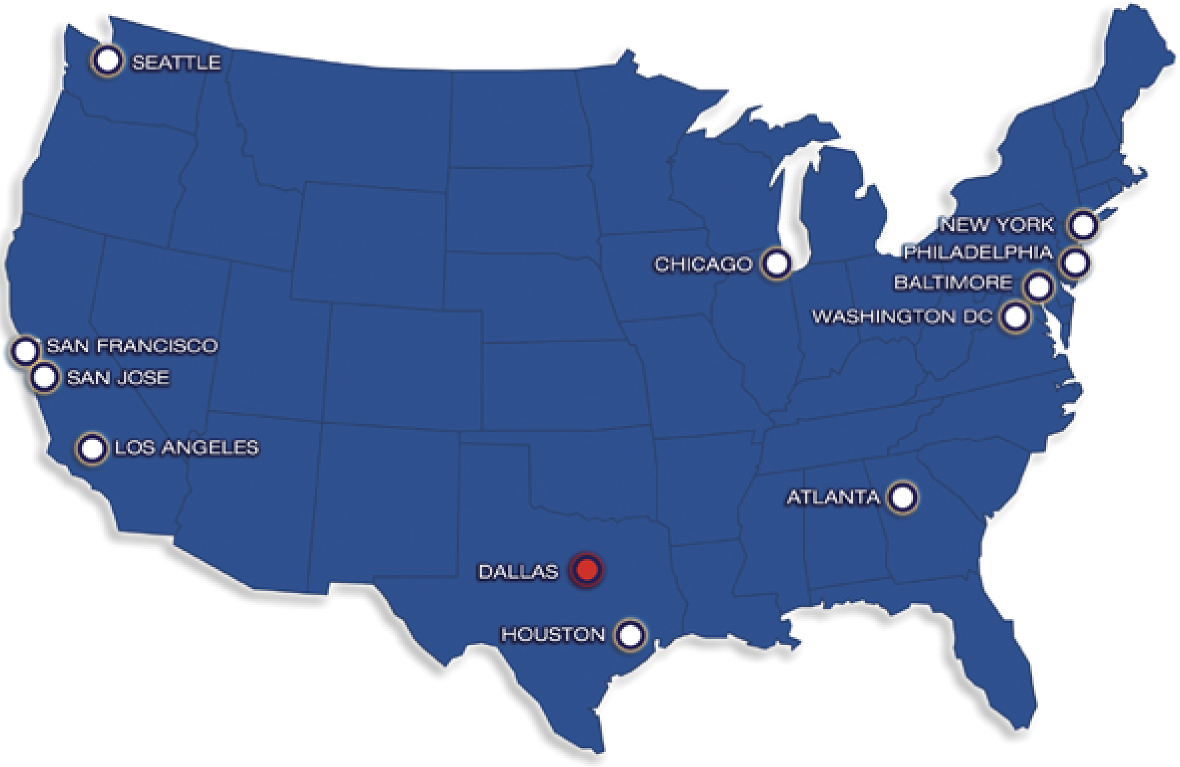
Real Estate

Company Brochure PDF

Driving Results from Start to Finish

We are providing breakthrough, fast-track solutions in the top U.S. metropolitan areas listed below.

To find a current list of buildings available in your area, roll your mouse over the market in which you are interested.



Free from the constraints of legacy systems, Looking Glass builds metro optical networks, which deliver immediate and lasting results. Because we own and control all aspects of our networks, we have the greatest flexibility to meet the requirements of carrier and enterprise customers, keeping them moving at the speed they need.

Safe At Any Speed

Our self-healing networks mean fewer service disruptions and greater network reliability — with annual transmission availability of up to 99.999 percent. With an all-optical network based on next-generation SONET/SDH technologies, our networks are capable of 50 millisecond recovery from failures such as fiber optic cable cuts. All backbone fiber is diversely routed and path protected. Looking Glass' Network Operation Control Center (NOCC) monitors and maintains our networks 24x7.

Solutions In The Fast Lane

We are providing breakthrough, fast-track solutions where the need is greatest — in the top U.S. metropolitan areas. We are initially connecting to key data aggregation buildings in Atlanta, Baltimore, Chicago, Dallas, Houston, Los Angeles, New York/Northern New Jersey, Philadelphia, San Francisco, San Jose, Seattle and Washington D.C./ Northern Virginia.

How Do You Benefit?

Every aspect of Looking Glass' operation is designed to provide the highest value to you, now and in the future.

- We deliver the broadest possible range of SONET, Ethernet and Wavelength services.
- Our redundant optical networks connect major data aggregation locations, ensuring access to the services you require.
- Our networks offer physical diversity from other fiber providers.
- We can build to the locations of your choice to meet your specific connectivity needs.
- Turnkey solutions for fiber optic facility design and construction.

- Our network nodes have the space and power to support physical collocation.
- Our Operational Support Systems ensure capacity and configuration availability, support rapid service delivery intervals, and provide Web-based access to everything from service ordering through fulfillment.
- Whenever you have questions and concerns, you get help directly from an experienced and knowledgeable Looking Glass customer care specialist, 24x7.

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Dark Fiber

Collocation

Design and Construction

Company Brochure PDF

DarkGLASS^{SM} - Dark Fiber

We provide the dark fiber you need where, when and how you need it. Our DarkGLASS^{SM}dark fiber solutions offer flexible, fixed-cost access to virtually unlimited capacity. You get the security advantages of ring configuration and exclusive use of each fiber pair plus end-to-end control of speed and bandwidth with the option of supplying your own electronics.

Our metro networks are built to carry extraordinarily high capacity - up to 864 strands of fiber. Because we build, own and maintain our networks, we are physically diverse from other fiber providers and can bring the dark fiber and fiber infrastructure you want wherever you need it. You benefit from our scalability and flexibility as we expand our footprint to meet your changing needs.

Our technologically advanced, high-grade fiber optic cable supports the full spectrum of bandwidth applications including disaster recovery, data warehousing, mirroring, streaming audio/video, distance learning and multiple technologies such as IP, SONET/SDH, DWDM, Fibre Channel, ATM, Frame Relay and Gigabit Ethernet. Our presence at data aggregation points in the top U.S. metro areas ensures reliable access to IXC, ISP, ILEC and CLEC locations as well as Web hosting facilities and data centers.

Why DarkGLASS^{SM}?

- Virtually unlimited capacity
- Flexibility to build to meet your specific needs
- Redundant networks connected to major data aggregation locations
- Support for all applications and technologies
- Your choice of access options

Product Features

Dark Fiber Access Where You Need It

With connectivity in primary Carrier Hotels, ILEC Central Offices (COs) and key enterprise buildings in major U.S. metro markets, DarkGLASS connects you where you need to be. Depending on your location and requirements, we offer the following access options:

- Zero manhole - Street-level access at Looking Glass manholes
- Point of Presence (POP) - Access at Looking Glass termination panels in buildings where Looking Glass maintains a presence
- Customer location - Termination at the customer's location
- ILEC Central Office - Access via the Looking Glass collocation area inside the ILEC central office

At the Leading Edge of Fiber
Our technologically advanced, high-grade fiber optic cable supports the full spectrum of bandwidth applications.

Quality and Security
Our commitment to network quality and security is second to none, and is evident throughout our operations. Quality and security play a prominent role at our national Network Operations Control Center (NOCC), where we provide performance monitoring, alarm surveillance and expert support and service 24x7. Additionally, we participate in local One Call, Call Before You Dig, Dig Safe and Dig Alert programs.

Dark Fiber

Flexible, fixed-cost
to virtually unlimite
capacity.

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Product Brochure

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For more information contact: sales@lglass.net or call 1-866-778-LGN1(5461)

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LUS Powered Network

LUS POWERED NETWORK
More Power to You

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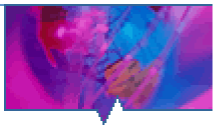

IN THE NEWS | MUNICIPAL AREA NETWORK
ABOUT LUS | RELATED LINKS

Lafayette Utilities System
For over 100 years, LUS has provided essential services to the community. In 1896, the citizens of Lafayette had the foresight to establish an entity to supply electricity and water to the community. This organization has developed into what is today the publicly owned Lafayette Utilities System serving over 55,000 electric accounts, 44,000 water accounts, 35,000 wastewater accounts and offering wholesale telecommunications services within the City of Lafayette and portions of Lafayette Parish.

LUS Powered Network
In January 2002, LUS activated the LUS Powered Network for wholesale telecommunication customers. Wholesale products and services include broadband, dedicated packet service, shared packet service, direct Internet access, customer premise equipment, tower lease packages, and last mile service.

The need for an enhanced communication system was introduced by LUS in 1998. At that time, LUS proposed expanding its infrastructure beyond traditional utilities by constructing a 65-mile, 96-strand SONET-based telecommunications system, the LUS Powered Network, with direct connections to Tier 1 providers. The network reaches within one mile of most businesses and residences in the City of Lafayette including major areas of development and primary traffic routes. LUS constructed the Powered Network to replace an aging microwave communications system which provided critical information between LUS electric substations and the main control center. LUS retained 12 fibers from the network for its communications needs in order to maintain a highly reliable system. The Powered Network began transmitting working traffic in December 2000 including data from the LUS electric

Partner Profile

Ntense Technologies
Ntense Technologies has over 50 years combined experience in the IT field, and holds more industry standard certifications than any of the competition. Ntense Technologies delivers greater productivity through the latest technologies. Service offerings include: · Networking · Broadband · Web Serv ...

More...

transmission and distribution system.

The remaining fiber was made available to facilitate broadband and high-speed Internet access to wholesale customers including CLECs, ISPs, and CAPs. The LUS Powered Network offers bandwidth solutions ranging from T1 to OC192, 1Mbps to 10 Gbps Ethernet, and 100 Mbps Internet services.The network is monitored and maintained 24 hours a day, 7 days a week. LUS is a registered Competitive Local Exchange Carrier (CLEC) with the Louisiana Public Service Commission.

1-16-02
LUS Powered Network press conference
(Terry Huval, LUS Director; US Senator John Breaux; US Representative Chris John)

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MCI

Metro Private Line Services

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If your business needs to transmit data between one or more locations within the same metropolitan area, MCI® Metro Private Line (MPL) services are a reliable alternative to comparable services offered by your local exchange carrier (LEC).

MCI's local network facilities are totally separate from your LEC's facilities (including building access), so there are no single points of failure on the MCI network. That means MPL is one of the most reliable private line services on the market. MCI, an inter-exchange carrier, offers local service over its own network facilities. MPL services have the bandwidth capacity to provide your company with a flexible, secure, and cost-effective private line solution.

What Are MCI's Metro Private Line Options?

Analog/Digital Services

- **Full Bandwidth Services.** DS-0 (56 Kbps) with VGA (analog) or digital, DS-1 (1.544 Mbps), and DS-3 (44.736 Mbps)
- **Channelized Services.** DS-1 channelized into 24 DS-0s, and DS-3 channelized into 28 DS-1s
- **Hubbed Services.** DS-1 and DS-3
- **Bridged Services.** DS-0 and DS-1

SONET Services

- **Concatenated (Full Bandwidth) Services.** OC-3c (155.520 Mbps), OC-12c (622 Mbps), and OC-48c (2.5 Gbps)
- **Channelized Services.** OC-3 with DS-1, DS-3 and STS-1 interfaces, OC-12 with DS-1, DS-3, STS-1 and OC-3 interfaces, and OC-48 with DS-1, DS-3, STS-1, OC-3 and OC-12 interfaces
- **Multipoint Services.** Providing connectivity between a host site and two or more secondary sites at SONET Transport Signal (STS) Volume Options from OC-3 to OC-48 - channelized or concatenated. Interfaces are in combinations of DS1 through OC-48/48c, and endlinks off a hub connection may be DS-1, DS-3, OC-3/3c, or OC-12/12c

Ethernet Services

- A standard, high-speed Ethernet interface for MPL SONET services
- Connects your company resources via a point-to-point, dedicated service that employs Ethernet as the access and termination method with your 1 Gbps interface
- Bandwidths of STS-1, STS-3, and STS-12 are available. Requests for 10/100 Mbps and 1 Gbps are reviewed on an individual case basis

Why MCI Metro Private Lines?

- Quick, reliable data transmission over our state-of-the-art, 100 percent

What Is SONET?

Short for Synchronous Optical Network, SONET is an international technical standard for connecting fiber optic communication systems. By establishing a standard speed for the network, communication carriers throughout the world can interconnect their existing fiber optic digital carrier systems.

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Email Updates

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E-Newsletter

View example

fiber-optic network, where unidirectional SONET rings provide added security due to the self-healing capabilities of SONET ring technology

- Local network route diversity - MCI will support connections to your locations not on our network, enhancing your network reach
- Service flexibility enables you to combine or segregate voice, data, or video applications
- Outstanding 24x7 customer service support and proactive network monitoring and support
- A highly competitive, single-source solution with just one contract, one contact, and one bill

What Applications Do MCI Metro Private Lines Support?

- **Peer-to-Peer.** Send data between designated locations via high-performance, secure dedicated lines.
- **Local Area Networks (LAN).** Connect to other LANs, mainframes, desktop computers, or supercomputers using MPL (requires appropriate bridges and routers).
- **Tie Lines.** Connect to an internal telephone system via dedicated lines between two designated locations.
- **Videoconferencing.** Establish virtual meeting areas at designated locations using videoconferencing coder-decoder (codec) equipment, monitors, and cameras.
- **Imaging.** Transmit documents between designated locations using imaging hardware and software.

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Data

Contact Us

MCI offers a wide range of wholesale data products, featuring one of the world's largest and most sophisticated data networks.

Private Line Services

As the industry's leading provider of facilities-based local-to-global services in many locations worldwide, MCI offers a comprehensive portfolio of private line solutions designed to accommodate virtually any type of communications application, from voice-grade to broadcasting applications.
More information.

Metro Private Line Services

Metro Private Line Services offer point-to-point or point-to-multipoint service between customer-designated locations for voice, data, video, imaging or carrier-to-carrier access needs within a LATA. MCI offers Metro Private Line Services in Metropolitan Statistical Areas (MSAs) nationwide, providing cost-effective alternatives to services provided by Local Exchange Carriers (LECs) or Competitive LECs (CLECs).

International Private Line

MCI offers full-duplex, dedicated, digital private line services to more than 150 countries at capacities ranging from 64 Kbps up to 155.52 Mbps. With a ruggedly engineered transatlantic fiber-optic network and an extensive pan-European network, MCI is able to deliver international building-to-building service with maximum network integrity.
More information.

Private IP

Private IP provides a network-based Virtual Private Network (VPN) topology based on MultiProtocol Label Switching (MPLS) and uses Frame Relay or ATM technologies to access the network. Private IP is designed for customers that want to share information in a secure environment across a Private IP backbone.
More information.

Integrated DS1 Access

Integrated DS1 Access allows products such as 1+, Toll Free, Private Line, Frame Relay and Internet Access via Frame Relay Transport to be transported over the same DS1 local loop allowing you to save money on the access recurring and installation charges.
More information.

Frame Relay Service

Wholesale Frame Relay Service allows you to provide branded frame relay service to your customers. Frame Relay Service is a data communications interface standard for wideband packet-switching, providing transmissioon of variable-length packets across a digital virtual private network. The packets can access the network at port speeds of 56 Kbps to 20 Mbps domestically, and up to 2 Mbps internationally. Frame Relay Service operates within the MCI broadband platform, which accommodates interworking between cell- and packet-based technologies.
More information.

ATM

ATM allows the end user to support multiple applications such as voice, data, and video-through a single network access interface. Utilizing a cell-based, high-speed broadband service that can integrate all types of traffic. Our ATM services are based on the latest ATM Forum specifications and international standards, provisioned on one of the largest ATM networks with a fully redundant backbone and state-of-the-art core and edge switching.
More information.

Colocation Services

Network Colocation services provide secure, carrier-grade space to house your data and voice network equipment within a world-class managed environment. Relying on Colocation Services for your domestic and international needs allows you to concentrate on the content and application of your business, not on details of managing the infrastructure.
More information.

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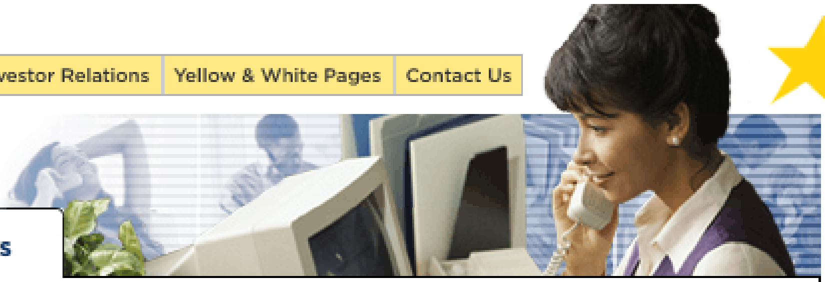

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  - DSL
  - Dedicated Internet
  - Metro Connections
  - Premium City-to-City Connections
  - Secure City-to-City Connections
  - VPN Remote Access
  - Integrated Access
  - Branded Email
  - Hosted Exchange
  - Managed Dedicated Internet
- Wireless
- Request Business Information
- Frequently Asked Questions

Related Links

Click here for more information

Internet & Data Services

Preferred Advantage® Dedicated Internet Service

Accelerate your savings & satisfaction

McLeodUSA Preferred Advantage® Dedicated Internet delivers dedicated Internet connections so your employees can research the competition and communicate with customers and suppliers faster and more effectively.

McLeodUSA Preferred Advantage® Dedicated Internet features:

- Dedicated Internet access at a variety of speeds, either T-1 or DS3, ranging from 128 Kbps to 45 Mbps, on the McLeodUSA advanced network
- Primary and Secondary domain name service (DNS) as well as DNS hosting
- Multiple registered IP addresses, from three to 248
- 24/7 customer service and network support
- Bundling with McLeodUSA local and long distance services, including shared local loop charges (optional service)
- Service Level Agreements that guarantee performance. Subject to change. Please check your contract for actual service level agreement.
- Up to twenty (20) "user @mcleodusa.net" email addresses with one 10MB mailbox per address and 6 MB of personal web space - all included for no extra charge.
- The ability to purchase branded individual corporate email accounts with Internet domains

For more information on Preferred Advantage® Dedicated Internet Service, please contact a McLeodUSA customer service representative at 1-800-593-1177.

Free 30 day trial of Hosted Exchange!

Try Microsoft® Outlook 2003 Webmail available anytime, from anywhere.

Special offers from McLeodUSA!

For a limited time, save big on select Preferred Advantage® services

Send a text message!

Send a text message to a McLeodUSA wireless customer from the web!

Here's a new wireless concept for business:

only pay for the minutes you actually use with Preferred Advantage℠ Wireless

Click here ▸ Learn more ▸ Click here ▸ Learn more ▸

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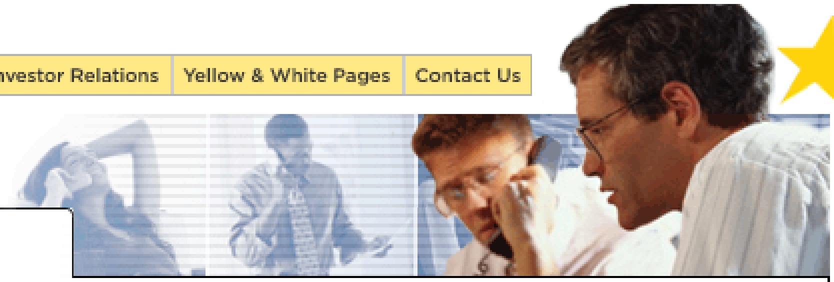
McLeodUSA



Wholesale

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Entire Site
Go

Find the right products for your needs

Browse by Product
Select...

- Wholesale Services
  - Carrier Access Services
  - Private Line Carrier Services
  - Colocation Services
  - Local PRI Carrier Services
  - Carrier Origination Services
  - Dedicated Carrier Termination Services
- More Services
- Request General Information
- Frequently Asked Questions

Related Links

Wholesale Services

Private Line Carrier Services

Fast, Clear Voice & Data Transmissions

McLeodUSA Private Line Carrier Services make it easy for your customers to transmit mission-critical data, video and multimedia communications.

McLeodUSA Private Line Carrier Services feature:

- Dedicated circuits in a range of bandwidth levels including DS0, DS1, DS3 and OCX
- Access to our advanced fiber-optic network spanning 108 cities, as well as rural areas, throughout 25 Midwest, Southwest, Northwest and Rocky Mountain States
- No delay and no waiting with "always on" 24/7 services to meet your data needs
- Streamlined communications services through a single point of contact
- Ensured optimal network design, seamless installation, and thorough testing
- Trained technicians continuously monitor connections for optimal performance
- Extended coverage on the McLeodUSA-owned network delivers fast, clear, reliable transmissions

For more information on McLeodUSA Carrier Sales, please contact Rhonda Csolak at 636-812-3084 or via email at rcsolak@mcleodusa.com

Your Account

Customer Service

For more information about McLeodUSA products and services, call (800) 593-1177.

Free 30 day trial of Hosted Exchange!
Try Microsoft® Outlook 2003 Webmail available anytime, from anywhere.
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Special offers from McLeodUSA!
For a limited time, save big on select Preferred Advantage® services
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Send a text message!
Send a text message to a McLeodUSA wireless customer from the web!
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Here's a new wireless concept for business:
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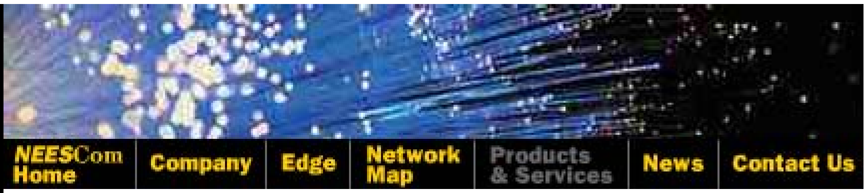
NEESCom

NEESCom
Connecting The Power of Light



Private Networks

Take your data communications to the next level

Looking for secure remote storage of mission-critical data?

Ready to build a high-speed network that can deliver Internet, telephone, video and other enhanced services throughout your business?

An enterprise private network (EPN) with dark fiber from NEESCom will let you take advantage of many data communications opportunities now available to companies competing in today's fast-changing e-business environment.

Site Map

With NEESCom dark fiber, you control your communications costs and network expansion rate. The capacity you lease from us at a fixed price is virtually unlimited. You decide how much bandwidth you provision. With our fully integrated 24 x 7, maintenance and network monitoring system you can be sure your data is safe and secure at all times.

NEESCom's private network customers also get quick, easy access to our state-of-the art infrastructure that includes more than 500 route miles of fiber along major transportation corridors, numerous local rings in metro areas, access to major carrier POPs and an array of fully supported collocation facilities and regeneration sites throughout New England.

Last, but by no means least, you get the unique benefit of NEESCom's unmatched experience working efficiently with local municipalities to secure rights-of-way and permits, helping to ensure that your enterprise gets just the data services it needs at maximum speed to market and minimum cost.

Neon Communications

NEON
COMMUNICATIONS

- COMPANY OVERVIEW
- PRODUCT / SERVICES
- NETWORK MAP
- NEWS & EVENTS
- CAREERS
- INVESTOR RELATIONS

- **SONET Private Line Service**
- **Central Office Access Service**
- **Wavelength Service**
- **Ethernet Private Line Service**
- **SONET Virtual Private Network Service**
- **Custom Private Optical Network Solutions**
- **Network Control Center Service**
- **Colocation Service**
- **Dark Fiber Service**
- **Enterprise Service**
- **Fiber Facts**
- **Industry Terminology**
- **Frequently Asked Questions**
- **Building List**

SONET Private Line Service

SONET Private Line .pdf

NEON Communications offers a regional network supporting long-haul and metro SONET private lines. SONET private lines on NEON’s network provide a highly reliable complete network solution for carriers and service providers. NEON’s network connects Tier 1 cities over our Express long-haul network and also provides connectivity from key Tier 2 and 3 cities to Tier 1 cities. This regional connectivity combined with NEON’s metro connectivity, connectivity to Incumbent Local Exchange Carrier (ILEC) central offices, and key carrier hotels provides a capillary network for carriers and service providers to expand their footprint in order to reach all of their customers in the Northeast and mid-Atlantic region.

Long-Haul SONET Private Line

NEON’s Long-Haul Express SONET Private Line Service provides connectivity to major Tier 1 cities including Boston, New York, Philadelphia, Baltimore, and Washington, DC. The Express Service offers scalable, reliable, high bandwidth solutions throughout one of the most bandwidth intensive telecommunications markets in the world.

NEON’s Long-Haul Regional SONET Private Line Service provides connectivity to Tier 2 and Tier 3 cities throughout the Northeast and mid-Atlantic region.

NEON's network incorporates intercity, regional, and metropolitan ring architecture, providing significant reach and market coverage and high reliability throughout the network.

Metro SONET Private Line

NEON's Metro SONET Private Line Service provides an efficient solution to access key carrier hotels, Internet peering and transit points, as well as the Public Switched Telephone Network (PSTN) in metropolitan areas. NEON has built metro networks in Tier 1 cities to deliver maximum capillarity. NEON’s metro capillarity also includes suburban cities and towns as well as metro networks in select Tier 2 and 3 cities.

Features and Benefits

When you connect into NEON's network, you are connecting into the highest density, most valuable telecommunications market in the world, with extensive on-net long-haul, regional, and metro connectivity including key central offices, tandems, and carrier hotels.

- *Flexible Bandwidth* - DS-3, OC-3, OC-12, OC-48
-

Dedicated OC-192 System Solution (4xOC-48 handoffs)

- *Multi-Application Support* - SONET supports all common networking requirements: circuit switched voice, Asynchronous Transfer Mode (ATM), frame relay, and Internet Protocol (IP)
- *Reliable* - Physically diverse, self healing, protected SONET architecture
- *Survivable* - Highest level of survivability
- *Available* - 24x7x365 network surveillance

SONET Private Line Service Specifications

	Long-Haul	**Metro**
Bandwidth	DS-3 Dedicated OC-192	DS-3 Dedicated OC-192
Protection	Full SONET protection with route diverse ring architecture in most areas	Full SONET protection with route diverse ring architecture in most areas
Network Technology	Utilizes NEON's diverse state-of-the-art DWDM network	Utilizes NEON's diverse metro DWDM network and traditional metro fiber
Availability	Portland, ME - Washington, DC	Over 160 POPs including tandems, central offices, and carrier hotels from Portland, ME - Washington, DC
Management	24x7x365 monitoring and surveillance	24x7x365 monitoring and surveillance
Protocol Support (Over SONET)	Circuit switched voice, ATM, frame relay, IP, and video	Circuit switched voice, ATM, frame relay, IP, and video

Protection Specifications	**On-Net**	**Off-Net Local Loop**
Availability	99.999%	99.99%

Bit Error Rate	1x10-9	1x10-9
Error Free Seconds	1x10-9	1x10-9
Mean Time to Repair (MTTR)	3 Hours	4 Hours

Back to Product Listing

NEON COMMUNICATIONS

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- Central Office Access Service
- Wavelength Service
- Ethernet Private Line Service
- SONET Virtual Private Network Service
- Custom Private Optical Network Solutions
- Network Control Center Service
- Colocation Service
- Dark Fiber Service
- Enterprise Service
- Fiber Facts
- Industry Terminology
- Frequently Asked Questions
- Building List

Dark Fiber Service

Dark_Fiber.pdf

NEON Communications has built a 2,000 mile fiber optic network utilizing advanced AllWave™ and TrueWave® fiber from Lucent Technologies, on which selected strands on specific routes are available to customers. NEON offers both long-haul and metro dark fiber in specific regions and NEON can acquire fiber for customers on a custom integration basis.

NEON Communications provides individual dark fiber strands to our customers on an up-front, leased basis. The timing and quantity of fiber strands available is determined on an individual case basis, depending on NEON's current and projected fiber inventory. As part of any dark fiber lease, NEON provides the necessary facilities including regeneration huts, hand-off points, as well as access to NEON's colocation centers for locating customer equipment. NEON has deployed the latest in fiber optic cables utilizing a number of types, depending on the routes, to meet the needs of current and future optical networks.

NEON Communications' fiber facilities are in secure rights-of-way, including electrical utility transmission and distribution plants, and underground conduits. Utilizing unique rights-of-way from common rail bed and highway routes, NEON is uniquely able to provide fiber capacity that is geographically diverse.

NEON Communications' fiber deployment with high Point of Presence (POP) connectivity and ring-based network architecture provides a unique resource upon which to build a robust and valuable communications network.

Back to Product Listing

NTS Communications

Verizon Response - Exhibit 5.B.3

NTS® COMMUNICATIONS

PEOPLE
PRODUCT
PRICE

(c) NTS Communications

Home Company Products Customer Care Help

Point to Point

NTS offers dedicated point-to-point and point-to-multipoint circuits at speeds ranging from 56Kbs to OC192 level connectivity. These services are available domestically on our own network, and on a worldwide basis, in conjunction with our various network partners. Every circuit provided by NTS is monitored by our Network Control Center on a 24 x 7 basis, ensuring constant quality and reliability. As an NTS private line customer, you are also assured that the pricing for your dedicated circuits will always be competitive.

If you would like to see a map of NTS's extensive fiber optic network facilities, please **Click Here**

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OnFiber Communications

Verizon Response - Exhibit 5.B.3

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OnFiber™

ABOUT : **SOLUTIONS** : OUR NETWORK : PEER EXCHANGE : PRESS

→ **OVERVIEW**
ADAPTIVEBUILD
SONET
ETHERNET
OPTICAL WAVELENGTH

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SOLUTIONS / OVERVIEW

OnFiber Communications is the leading provider of high-bandwidth optical connectivity in the nation's top metropolitan markets. The OnFiber suite of optical services provides solutions that address the primary fiber optic needs in metropolitan areas:

- **Custom networking needs** - where customers require unique services and connectivity within the metro. OnFiber has built numerous private optical networks for customers that required unique implementations of the OnFiber standard service offerings coupled with OnFiber's core competence in constructing, deploying, and managing metro networks.
- **Metro core needs** - where service providers such as Internet service providers (ISPs), domestic and international carriers, other carriers (i.e., CLECs, wireless providers), and content providers require connectivity between traffic aggregation points within a metro area. All of OnFiber's metro solutions are compatible with existing fiber networks, assuring a virtual extension of our service provider customers' networks.
- **Metro access needs** - where enterprises require broadband connectivity from their corporate offices to their service providers or between enterprise locations within a metro. OnFiber has completed the metro access connection between enterprise locations and service provider POPs for numerous customers that have bundled OnFiber's Optical Ethernet service with the customers' IP access service offering.

OnFiber's all-optical network provides the foundation for the broadest suite of services available including:

- **Optical Wavelength**: Offers customers a fully managed, point-to-point wavelength between sites on the OnFiber all-optical metro networks at capacities between 1.25Gbps (GigE) and 10 Gbps (OC-192). The perfect substitute for dark fiber or high-end SONET services, Optical Wavelengths provide intra-metro connectivity between service provider POPs, carrier hotels, and network access points. Learn more
- **SONET**: Available in point-to-point or point-to-multipoint configurations, OnFiber SONET services are designed to meet the needs of customers

"I would characterize OnFiber's service as fast, highly reliable and flexible - the ultimate 'last mile' solution. "

- Andy Gutierrez,
Vice President of Texas Operations,
Phoenix Internet

with bandwidth requirements of DS-3 (45Mbps) to OC-192 (10 Gbps). Competitively priced, OnFiber's SONET services are ideal for applications where speed and survivability are crucial issues. Learn more

- **Ethernet**: For service providers and businesses with multiple locations, Optical Ethernet Services provide a simple, cost-effective, and dedicated solution for interconnecting traffic aggregation points throughout a metro as well as for extending Local Area Network (LAN) capabilities. Learn more

OnFiber's suite of solutions coupled with its metro footprints makes it the choice for connectivity for a variety of customer segments:

Carriers

- Enhanced network quality and expanded business scope through effective peering capabilities
- Establish direct connections for international carriers to carrier hotels to increase access to new customers. Utilizing Ethernet augments their backbone networks very rapidly at significant cost-savings over alternatives.
- Highly scalable connections enhance load balancing and data synchronization

Internet Service Providers

- Save money by establishing peering arrangements with other ISPs in various OnFiber-enabled POPs
- Expand their business by reaching more customers in more data centers
- Secure, redundant connections offer backup to primary circuits
- Rapid connections to long-distance providers

Managed Service Providers

- Cost savings for high bandwidth connections
- Cost savings by paying for bandwidth needed and no more
- Expand their business by reselling OnFiber services
- Protect against outages by deploying redundant circuits efficiently
- Deliver data synchronization and load balancing between service facilities

Content Providers

- Cost savings by easily adding redundant connections (eliminating significant equipment costs)
- Easy connections to ISPs to reach customers
- Establish private connections with other content providers, at a cost savings
- Connect various data centers to reach end-customers and expand the

business

Enterprise

- Complete in-house construction management, project management, fiber acquisition and optical engineering team
- Reliable and scalable custom networks in a fraction of the time
- Route diversity and single point of failure options
- Ability to build virtually anywhere in the contiguous U.S.

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24/7 SUPPORT | CONTACT | SEARCH

ABOUT : **SOLUTIONS** : OUR NETWORK : PEER EXCHANGE : PRESS

OVERVIEW
ADAPTIVEBUILD
→ **SONET**
ETHERNET
OPTICAL WAVELENGTH

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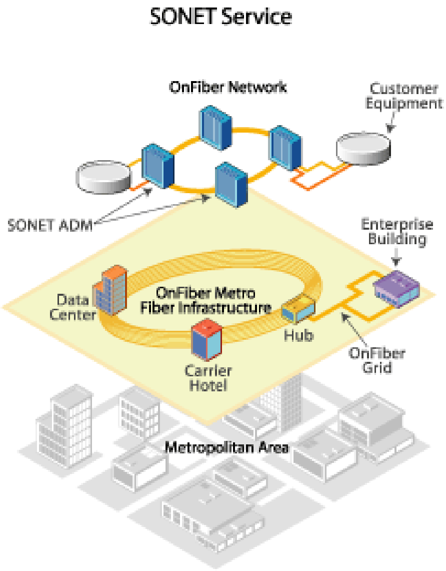
SOLUTIONS / SONET SERVICES

INDUSTRY STANDARD RELIABILITY

OnFiber SONET Services offer the benefits of industry standard optical connections over the most efficient and cost effective network available. Utilizing advanced next-generation equipment, OnFiber SONET Services provide connectivity to data centers, carrier hotels, and enterprise businesses in metros throughout the country.

With diversely routed connections and fully protected handoffs, OnFiber SONET Services offer the high reliability necessary for mission critical applications. This service provides the capacity and capabilities of traditional SONET services with added scalability and decreased costs due to OnFiber's advanced network architecture.



SERVICE CONFIGURATIONS

The customer can choose from two configurations — Unprotected and Protected. Each is available in speeds from DS-1 to OC-192.

UNPROTECTED SONET SERVICE

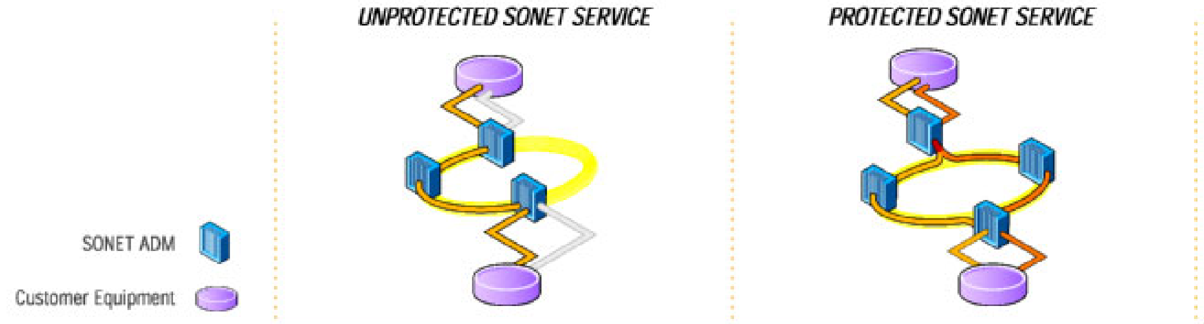
- Delivers a single unprotected SONET circuit between customer locations.
- Monthly service availability objective is 99%.
- Provides a cost-effective solution for backup applications or situations where the customer is performing protection switching at Layer 3 or above.

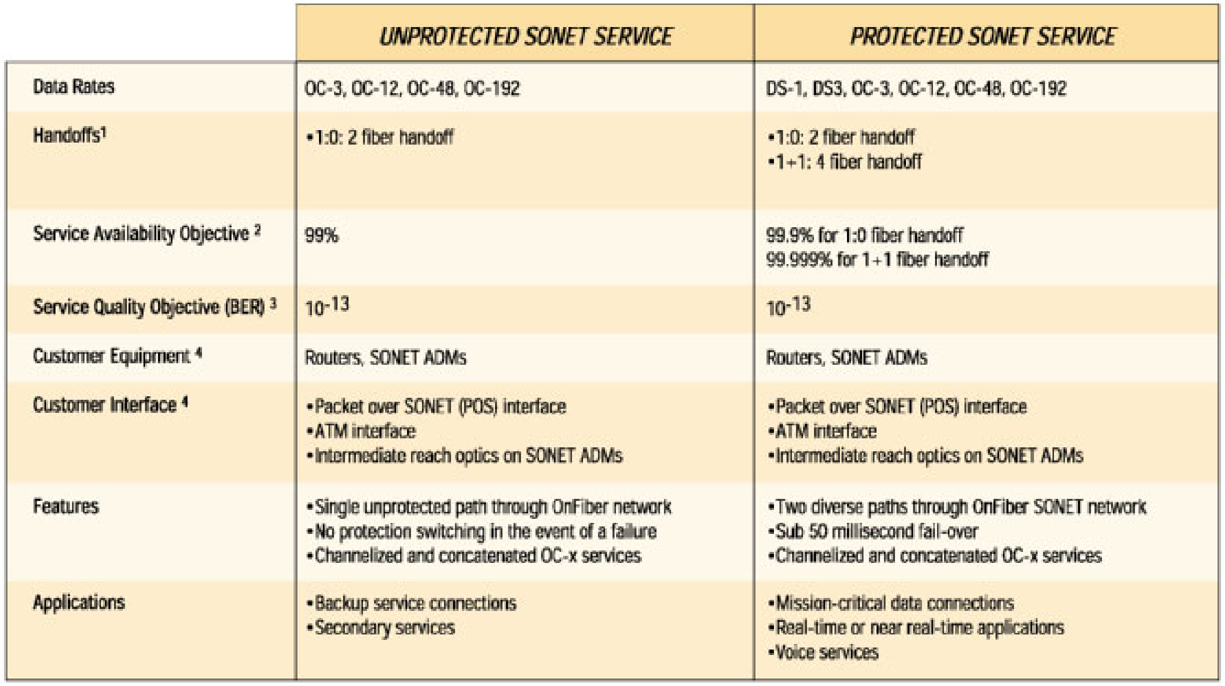
PROTECTED SONET SERVICE

- Delivers a fully protected SONET circuit between customer locations on the OnFiber network.
- Multiple service handoff options – monthly service availability objective as high as 99.999%.
- Provides an ideal solution for mission critical applications.

> "When my OnFiber customer representative told me they could turn up my service in one or two days, I didn't think that was realistic. The company delivered on its promise, which in turn allowed me to better serve my own customers."
>
> - Michael Francois,
> Vice President of Network Engineering,
> Epoch Internet

Verizon Response - Exhibit 5.B.3





	UNPROTECTED SONET SERVICE	PROTECTED SONET SERVICE
Data Rates	OC-3, OC-12, OC-48, OC-192	DS-1, DS3, OC-3, OC-12, OC-48, OC-192
Handoffs[1]	•1:0: 2 fiber handoff	•1:0: 2 fiber handoff •1+1: 4 fiber handoff
Service Availability Objective [2]	99%	99.9% for 1:0 fiber handoff 99.999% for 1+1 fiber handoff
Service Quality Objective (BER) [3]	10^{-13}	10^{-13}
Customer Equipment [4]	Routers, SONET ADMs	Routers, SONET ADMs
Customer Interface [4]	•Packet over SONET (POS) interface •ATM interface •Intermediate reach optics on SONET ADMs	•Packet over SONET (POS) interface •ATM interface •Intermediate reach optics on SONET ADMs
Features	•Single unprotected path through OnFiber network •No protection switching in the event of a failure •Channelized and concatenated OC-x services	•Two diverse paths through OnFiber SONET network •Sub 50 millisecond fail-over •Channelized and concatenated OC-x services
Applications	•Backup service connections •Secondary services	•Mission-critical data connections •Real-time or near real-time applications •Voice services

1. DS3 circuits handed off as electrical connections.
2. Service Availability measured on a monthly basis.
3. Service Quality defined in terms of Bit Error Ratio (BER)-measured on a monthly basis.
4. Contact OnFiber for customer equipment and interface options.

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PPL Telecom

Verizon Response - Exhibit 5.B.3

PPLTELCOM :: THE NETWORK

THE NETWORK

home >> the network

PPL Telcom has built a world class network, far more redundant and diverse than most. The Network features over 2500 route miles of fiber consisting of 1000 route miles of fiber in 15 Metropolitan Networks, all connected by over 1500 route miles of regional fiber.

The network offers unparalleled connectivity to Mid-Atlantic region destinations. From New York City on the East, Pittsburgh on the West, Washington DC on the south and key markets in between. Our Metropolitan networks feature deep fiber penetration with fiber passes within half a mile of over 100,000 business locations. For the Mid-Atlantic region PPL Telcom provides the first mile, the last mile, and the network in between. With over 1,000 route miles of metro fiber and numerous CO, Peering, and Carrier Hotel colocates, the network offers both unparaleled diversity, and unparalleled connectivity options.

Technologically speaking the PPL Telcom network begins with a diverse fiber core, adds a robust DWDM system offering nearly unlimited capacity, and layers it all with SONET technology to deliver a network that exceeds 99.999% reliability. Products offered include Private Line from T1 to OC-192, Ethernet from 10 Mbps to 1 Gbps, IP Services (Dedicated Internet Access), 2.5 Gigabit and 10 Gigabit Wavelengths. In addition, PPL Telcom provides Colocation facilities that let you put your networks- and mission critical applications- at the core of one of the most reliable networks ever built.

2004 PPL Telcom, LLC

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PRIVATE LINE **SERVICES**

For more information please call
1-800-390-6094
or visit our Web site: www.ppltelcom.com

control your **bandwidth**

When it comes to transporting mission-critical voice or data traffic, nothing surpasses PPL Telcom's Private Line Services for network reliability and scalability. Point-to-point, point to multipoint and dedicated rings are available on PPL Telcom's rock solid network.

FEATURES

Choice of bandwidth levels
Available for both metro or regional applications
Protected service standard
Dual channel support
Bandwidth aggregation
Point-to-point, point to multipoint and dedicated ring configurations available

BENEFITS

Directly connect to and between markets
Around-the-clock security, monitoring and support
Rock solid, route diverse and electronically protected network
Greater than 99.999% reliability

NETWORK

Matched node SONET architecture
All routes rings; no linear routes
Self-healing network
Less than 50 ms failover in the event of a fiber cut
Diverse building entrances available

BANDWIDTH SPEEDS

DS1 – OC-192 available in both the metropolitan and regional networks

BANDWIDTH AGGREGATION

You can fan multiple circuits from a single higher speed hub either regionally or across our metropolitan optical network. PPL Telcom allows you to multiplex numerous circuits together in a single high-speed connection, enabling you to create more complex point-to-point configurations.

About PPL Telcom

PPL Telcom, an unregulated subsidiary of PPL Corporation, is a provider of "last-mile" metro and regional broadband connections to telecommunications companies, carriers, Internet service providers and large businesses and institutions – such as hospitals, schools and government agencies – that need high-speed data connections between multiple locations.

PPL Telcom has developed a fiber-optic network strategically situated in the mid-Atlantic region, which consists of over 2,500 route miles of fiber providing service to 15 markets in six states and the District of Columbia.

PRIVATE LINE SERVICES

PPL Telcom Products

- Private Line Services
- Optical Wavelength
- Ethernet
- IP Services (Dedicated Internet Access)
- Colocation
- Wireless Infrastructure

UNLIMITED **BANDWIDTH**
INFINITE **OPPORTUNITY**

www.ppltelcom.com

PPL Telcom Advantage

High-speed bandwidth connects you faster to quickly expanding markets, and our wide array of options lets you do it for less.

PPL Telcom

Progress Telecom

Additional Services

We do more than promise. We deliver.

Collocation

EPIK’s Collocation Services offer a quick, cost effective solution to housing your equipment. You’ll have the security of knowing that that your network is safe, reliable and runs nonstop.

Our commitment to your success includes:

- Rack and cage space.
- Carrier classification.
- AC and DC power. Take advantage of versatile power options tailored to your specific equipment needs.
- Standby generator and battery back-up. Avoid disruptions in service caused by power outages and other emergencies with four and eight hour back-up equipment with an automatic-start emergency generator.
- Environmental controls and alarms. Count on our Network Control Center (NCC) to monitor facilities for fire, heating and cooling as well as supervised entrance activity 24 hours a day, 7 days a week.
- Physical security. Our secure facilities ensure your equipment is fully protected from intrusions.

Dark Fiber

EPIK’s range of reliable service delivery also includes dark fiber on our Southeast network which includes:

- Splicing and pre-sale testing on fiber.
- Fiber maintenance.
- As-built drawings.

To learn more about EPIK and our family of services, call us at 407.482.8400 or visit us on the web at **www.epik.net**

Qwest

Verizon Response - Exhibit 5.B.3

LOCAL PHONE SERVICE INTERNET/DSL WIRELESS LONG DISTANCE TV SERVICES
CUSTOMER SERVICE SEARCH
QwestCon
Manage My A
HOME RESIDENTIAL SMALL BUSINESS LARGE BUSINESS PARTNERS WHOL
Products & Services | Solutions by Industry | Request Information | Manage Your Account | Customer Service

Qwest
Spirit of Service™

LARGE BUSINESS

Products & Services

Data Solutions

For more information call
800-777-9594
6AM-6PM (MT), M-F

Submit a request for information

Qwest Metro Private Line

Business challenges

If you transport large amounts of information between two locations within the same metropolitan area, you understand the challenges in getting high quality, competitively priced service. Low-speed transport services and error-prone analog systems do not offer the reliability and the capacity to compete in today's fast paced business landscape. Your organization needs large capacity, high speeds and the flexibility to configure communications services to meet very specific and frequently changing requirements. You also want to purchase these large bandwidths at competitive prices.

The Qwest solution

Qwest Metro Private Line (QMPL) provides competitively priced, point-to-point, intraLATA private lines at speeds ranging from DS-1 (1.544 Mbps) to OC-48 (2.4 Gbps) for on-net to on-net connectivity, and DS-1 to OC-12 for on-net to off-net locations. Businesses can connect two or more locations within the same metropolitan area with QMPL high quality, reliable and scalable service. If you already have an established relationship with another carrier, QMPL is there to meet your local loop requirements. Many carriers may not be able to provide that last mile, local loop access. QMPL can be your comprehensive solution.

Who needs QMPL?

- Any company that is experiencing local bandwidth constraints
- Institutions that need to back up data remotely
- Businesses that need to connect to vendors or suppliers
- Large companies with multiple locations or key vendor relationships in a metropolitan area
- Any company that has high bandwidth applications for data, voice, video or detailed imaging

QMPL benefits

- Potential cost savings: QMPL can potentially eliminate the need for multiple lines to support voice, data and video applications.
- Reliability: The Qwest all fiber synchronous optical network (SONET) guarantees a 99.95 service level agreement (SLA) and 50 millisecond restoration in the case of a fiber cut. QMPL has fully protected cards.
- Security: Fiber optic circuits are tamper resistant, providing an extra level of security.
- Expandability: QMPL is designed to be flexible to meet changing requirements. Qwest makes it easy to move up to a larger bandwidth as your business needs change.
- Multiplexing: Multiple services can be multiplexed into OC-N services to take advantage of economies of scale. For example, it is less expensive to install and maintain one high-speed line than it is to run multiple lower speed lines. QMPL can multiplex lower speed lines at the end points and potentially save you money.
- Flexible Pricing: Discounted, variable-term contract options offer a choice of savings plans.
- Future Services: Qwest gives you the ability to transition your business as we introduce new services such as metro wavelengths, metro Ethernet and enhanced SONET ring services.

The Qwest advantage

QMPL is one of the most advanced telecommunications technologies available today. Our SONET-based system is a large capacity, 100 percent fiber optic network deployed in a ring configuration. The system employs a working, or "hot," path carrying data in one direction and a "protected" path transporting information in the opposite direction around the ring. The ring topology continually monitors service quality, detects any failure or degradation and automatically self-heals to ensure uninterrupted transmission flow. Rerouting is accomplished within 50 milliseconds.

You can depend on Qwest for proven precision, power and performance. Our QMPL service offers a range of flexible, cost-effective alternatives for high-capacity and high-speed data, video and voice applications. Save both time and expense-take advantage of today's most useful and bandwidth-intensive applications-Qwest Metro Private Line.

Qwest Metro Private Line Availability

Albany, NY
Austin, TX
Baltimore, MD
Boston, MA
Chicago, IL
Cincinnati, OH
Los Angeles, CA
New York City, NY
Newark, NJ
Philadelphia, PA
Pittsburgh, PA
Sacramento, CA

- Cleveland, OH
- Columbus, OH
- Dallas/Ft. Worth, TX
- Detroit, MI
- Houston, TX
- Indianapolis, IN
- Irvine/Orange County, CA
- Kansas City, KS & MO
- San Antonio, TX
- San Diego, CA
- San Francisco, CA
- San Jose, CA
- St. Louis, MO
- Washington DC
- White Plains, NY

Qwest Metro Private Line is available in SONET metropolitan area networks (MANs) in 27 United States metropolitan statistical areas (MSA). These Metropolitan Area Networks provide customers with access to the Qwest Macro Capacity® Fiber Network. Local loop access in remaining metropolitan areas in the United States is also made available to Qwest Wholesale and Global Business markets account customers via on-net and off-net Qwest fiber network facilities. Minimum one year term of commitment required. Additional fees may apply.

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SIGECOM

SIGECOM

SIGECOM - The Power of TOTAL Communications!

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VOICE, VIDEO, DATA

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You Supply the Possibilities.

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SIGECOM offers the following high-powered Internet solutions

- Small Business Packages
- Flexible Bandwidth Packages
- Tiered Enterprise Solutions
- NT Web Hosting
- eCommerce Hosting Solutions

Tiered Enterprise Solutions

SIGECOM Enterprise solutions are the ideal solution for mid to large-size corporations looking for connectivity solutions. These high-bandwidth packages enable your company to accommodate the evolving bandwidth requirements for applications such as E-commerce and online database hosting. With SIGECOM Enterprise Solutions, your business can truly harness the power of the Internet.

Utilizing SIGECOM's state-of-the art fiber optic network, SIGECOM Enterprise Solutions can connect your business to the Internet at 1.54 Mbps (T1), 5 Mbps, 10 Mbps, or 45 Mbps. The SIGECOM fiber optic network was built specifically to handle the high capacity Internet demands for larger businesses. Load-balancing schemes have been deployed to avoid the bottlenecks often associated with lower quality providers. SIGECOM's completely redundant T-3 connections to the Internet provide the ultimate in reliability and performance.

SIGECOM's Enterprise Solutions were designed around your company's present and future Internet needs. SIGECOM Enterprise Solutions will provide an optimum connection whether your business is looking to connect multiple locations to the Internet or looking to host your own web servers. By solving your business-critical issues, SIGECOM is no longer just an Internet provider, we're your Internet service partner.

▶ **Check your domain name availability!**

For more information and pricing please contact SIGECOM Large Business Sales at 812-469-0345.

BACK - NEXT

Southern Telecom

SOUTHERN COMPANY

Southern Telecom

President and CEO

General Manager

Business Development

Finance

about us

Southern Telecom

Southern Telecom is the telecommunications subsidiary of Southern Company (NYSE: SO). Founded in 1997 and headquartered in Atlanta, Georgia, Southern Telecom offers an entrepreneurial spirit supported by one of the largest investor-owned utilities in North America.

Southern Telecom provides wholesale dark fiber optic solutions to the business community. more

Based in Atlanta, Southern Company is the parent of five operating utilities as well as a rapidly growing competitive wholesale generation business.

Wired or wireless?

Southern Telecom is the wireline, fiber optic telecommunications subsidiary of Southern Company. Southern LINC is Southern Company’s wireless communications service offering businesses two-way radio, phone service, paging and Internet access in one handset.

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SOUTHERN COMPANY
Southern Telecom

About Us Solutions Network Partnerships News

Dark Fiber/Conduit Colocation Market Research Network Monitoring Project Management

long haul
Large capacity, high speed connections lead from your office door across the Southeast.

solutions

Dark Fiber & Conduit

Bandwidth bottlenecks can slow data traffic, sometimes at the last mile. This is because most fiber optics networks do not extend all the way to the businesses in need of service. Southern Telecom provides metro dark fiber service laterals and backbone fiber that can deliver this last mile to ensure fast connections in the Southeast. Southern Telecom's solutions will eliminate bandwidth as an impediment to your growth without major capital expenditures or maintenance obligations.

Additionally, fast direct access to Southern Company assets and to transmission and distribution rights of way help speed development of new points of service throughout the Southeast. For instance, use of an idle steampipe network running under metropolitan Atlanta enabled Southern Telecom to lock in valuable real estate and accelerate the permitting and construction process to better serve key buildings.

Southern Telecom's fiber and conduit services support route diversity and access to numerous key colocation sites in Atlanta, Macon and Jacksonville with plans to add more cities in the Southeast.

You will receive the support of our network operations center (NOC) and field technicians for 24/7 site-monitoring and maintenance.

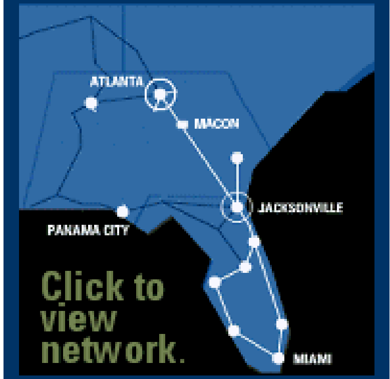
Dark fiber options:

- Monthly or pre-paid lease arrangements
- Point to point or ring configurations
- Enterprise building service laterals
- Full fiber cables or select number of strands
- High-quality fiber supporting DWDM (e.g., NZ-DSF for inter-city spans or SMF-28 metro fiber)
- Compliant with industry standards
- For inter-city routes, regenerator sites can be provisioned with racks for client electronics and cross-connects
- Industry-leading maintenance response time
- Private network construction services

Additionally, our conduit offerings feature:

- Industry standard inner liners
- Fully proofed and tagged
- Sufficient manhole space for client needs (coiling, wiring, splicing)
- Coring for service laterals
- Backbone and service laterals

From long haul to last mile...



From long haul to last mile, see how our network fits your needs. (This animation uses Flash, a free plug-in that comes with most browsers. Get the player or view a static view of the network routes and metro without flash.)

TelCove

Home **About TelCove** **Premium Products** **Premium Network** **Premium Customers** **Press Room**

Private Local SONET Ring

Product Description

TelCove's Private Local SONET Ring (PLSR) is a high-capacity network that enables business customers, including inter-exchange carriers (IXCs), to connect multiple locations in TelCove markets via a self-healing, dedicated fiber optic infrastructure for the transmission of their voice and data communications.

PLSR consists of three primary elements or components:

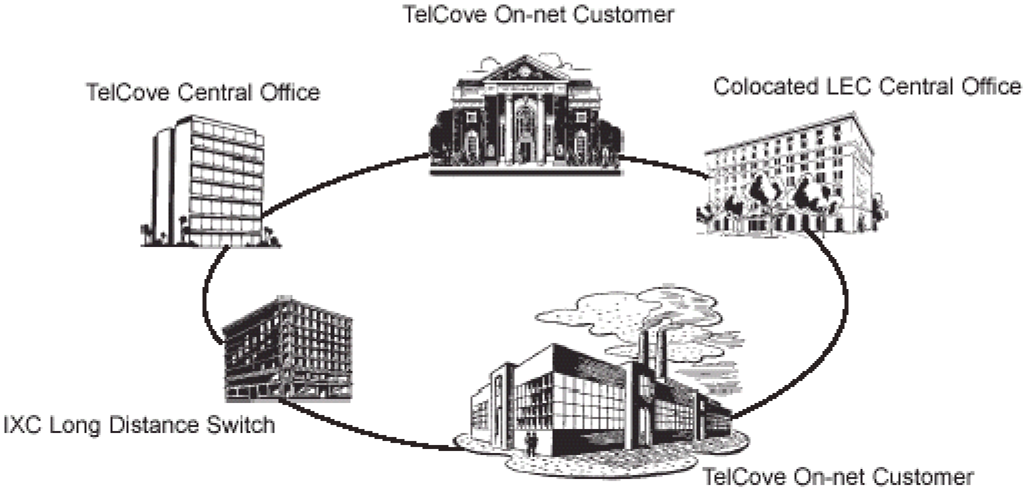
1. Network Capacity (NC) – Defines the total bandwidth required and dedicated to the TelCove end-user customer (e.g. OC-3 at 155.52 Mbps, OC-12 at 622.08 Mbps, and OC-48 at 2.488 Gbps)

2. Network Elements (NE) – Defines the actual number of nodes the customer requires on the ring, in addition to the TelCove Central Office node used for maintenance and monitoring

3. Service Channels (SC) – Defines the amount of bandwidth or channels the customer requires from each of the network elements throughout the ring

The types of channels include:

- DS-1
- DS-3
- OC-3 (only available on OC-12 and OC-48 rings)
- OC-12 (only available on OC-48 rings)



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- **Carrier Serv**
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Applications

PLSR is well positioned for those applications requiring the benefits of non-shared, secure multi-point voice and data facilities including:

- Legacy operations environments
- Disaster recovery services
- Video applications
- Distributed computing
- High-capacity offsite storage
- Manufacturing
- Banking and security

Advantages

The cost of network outages can be astronomical to a business. Weather-related incidents, traffic accidents, and vandalism can cut a traditional network connection and interrupt business communications. Like all of TelCove's Local Private Line services, PLSR is monitored and maintained around the clock from our Network Operations Control Center (NOCC). Deployed over the TelCove local SONET ring, PLSR combines guaranteed bandwidth with self-healing, fiber optic ring technology to keep data, voice, and video flowing reliably and securely. Furthermore, since fiber optics are virtually impossible to tap, a dedicated network provides a private connection that prevents intruders from accessing information.

Conclusion

PLSR enables customers to focus on business issues and the information flowing between multiple locations, not the network that carries it. With PLSR, TelCove takes care of the network for its customers.

PLSR delivers:

- Guaranteed bandwidth - the capacity when you want it
- Network availability - self-healing and restores quickly to ensure maximum network availability
- Network security - virtually impossible to tap, and with a dedicated network intruders are unable to access business information

PLSR is not just a product or a technology, it's a service. The TelCove local customer care team will set up PLSR based on the requirements of the business, modify service to accommodate growth, and inform the customer of enhancements and other options. In short, TelCove will provide the kind of customer care you should expect from your communications provider.

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Time Warner Telecom

TIME WARNER TELECOM

THE POWER DRIVING YOUR NETWORK

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SWITCHED & TRANSPORT SERVICES

Solutions

- Internet & Data
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  - Business Switched Services
  - **Dedicated High Capacity Services**
  - Digital Trunks
  - ISDN PRI
  - Line Features
  - Long Distance Services
  - Regional Networks
  - Voice Messaging
  - Voice Services: Multi-Location Solutions
- Packaged Solutions
- Joint Marketing Solutions
- By Industry
- Special Offers
- Request Sales Call

Dedicated High Capacity Services

Time Warner Telecom’s Dedicated High Capacity Services offer a complete range of transmission speeds from 1.5 Mbps to 10 Gbps. Our Dedicated High Capacity Services are flexible and can be used for voice, data, image and video transmissions.

DS1 / DS3

Dedicated, high capacity, full duplex channel with line speed of 1.544/45 Mbps isochronous serial data.

SONET

High capacity channels for full duplex, synchronous optical transmission of digital data. Time Warner Telecom’s SONET services are available in both point-to-point and multipoint ring configurations.

Wavelength / Lambda

Time Warner Telecom offers wavelength services that allow one or many direct interfaces to extremely high capacity point-to-point channels. Each wavelength has a standard capacity of either 2.5 Gbps or 10 Gbps.

Storage Transport (ESCON / Fibre Channel)

Using the most current technology, DWDM (Dense Wave Division Multiplexing), Time Warner Telecom is able to transport your native traffic, without any protocol translation to your secure site miles away. Time Warner Telecom will monitor the link for you, so you may spend your valuable time concentrating on your core business. Using multiple paths will ensure that your traffic will get to its destination every time.

Video

Time Warner Telecom provides dedicated transport of broadcast quality video meeting NTSC analog interface standard RS250B.

Regional Networks

Time Warner Telecom offers custom solutions with end-to-end network connectivity. Our expansive local footprint and nationwide IP Backbone also allows us to offer long haul, city-to-city Dedicated High Capacity services for carrying your data, voice, and video between customer locations in different cities.

Read more about **Dedicated High Capacity Services**.

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TIME WARNER TELECOM

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CUSTOMERS

Customers

- Customer Center
- Enterprise
- Carrier
- By Industry
- Request Sales Call

Carriers

Time Warner Telecom is committed to serving the needs of carriers and service providers. Our commitment, combined with our robust network, means you can count on us to provide the communications solutions you need to stay competitive.

Some of our services for carriers include:

Internet & Data

- Storage & Transport Services

Switched & Transport

- Dedicated High Capacity Services (DS1/DS3)
- Digital Trunks
- ISDN PRI

legal notices | **contact us**

DEDICATED HIGH CAPACITY SERVICES

Time Warner Telecom's Dedicated High Capacity Services offer a complete range of transmission speeds from 1.5 Mbps to 10 Gbps. Our Dedicated High Capacity Services are flexible and can be used for voice, data, image and video transmission.

We have built modern and powerful communications networks to provide business customers with the bandwidth, reliability, security and quality of service that their business demands.

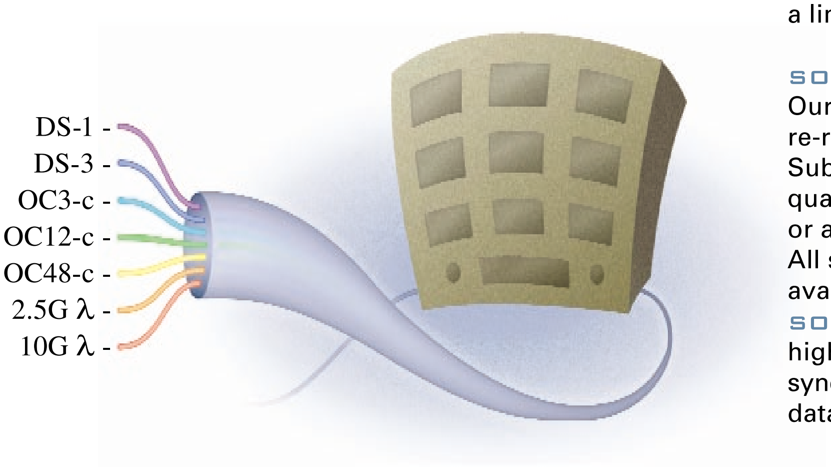
Time Warner Telecom's networks are built with advanced fiber optic technology, including state-of-the-art SONET and DWDM (Dense Wave Division Multiplexing).

We monitor our networks around the clock to ensure the highest quality transmission performance available anywhere.

Businesses of all sizes, with varied needs, can choose from standard Time Warner Telecom Dedicated High Capacity Services. Our local team of experts will design specific solutions tailored for your unique needs.

Products & Services:

DS-1 Service – Dedicated high-capacity, full-duplex channel with 1.544 Mbps of isochronous serial data line speed, line code of AMI (Alternate Mark Inversion) or B8ZS (Binary 8 Zeros Substitution) and either Superframe (D4) or Extended Superframe formats. DS-1 service has equivalent capacity of 24 voice grade or DS-0 services. Applications: voice, data, image or video when there is a need for cost effective, bulk communications between two locations.



DS-3 Service – Dedicated high-capacity, full duplex channel with 44.736 Mbps line speed of isochronous serial data, line code of B3ZS. DS-3 service has equivalent capacity of 28 DS-1 services at 1.544 Mbps, or 672 voice grade or DS-0 services at 56/64 Kbps. Applications: high volume voice, data, image or video, eliminating the need to maintain and pay for multiple dedicated lines. DS-3 service is often used in hubbed networks as well as in point-to-point network backbone situations.

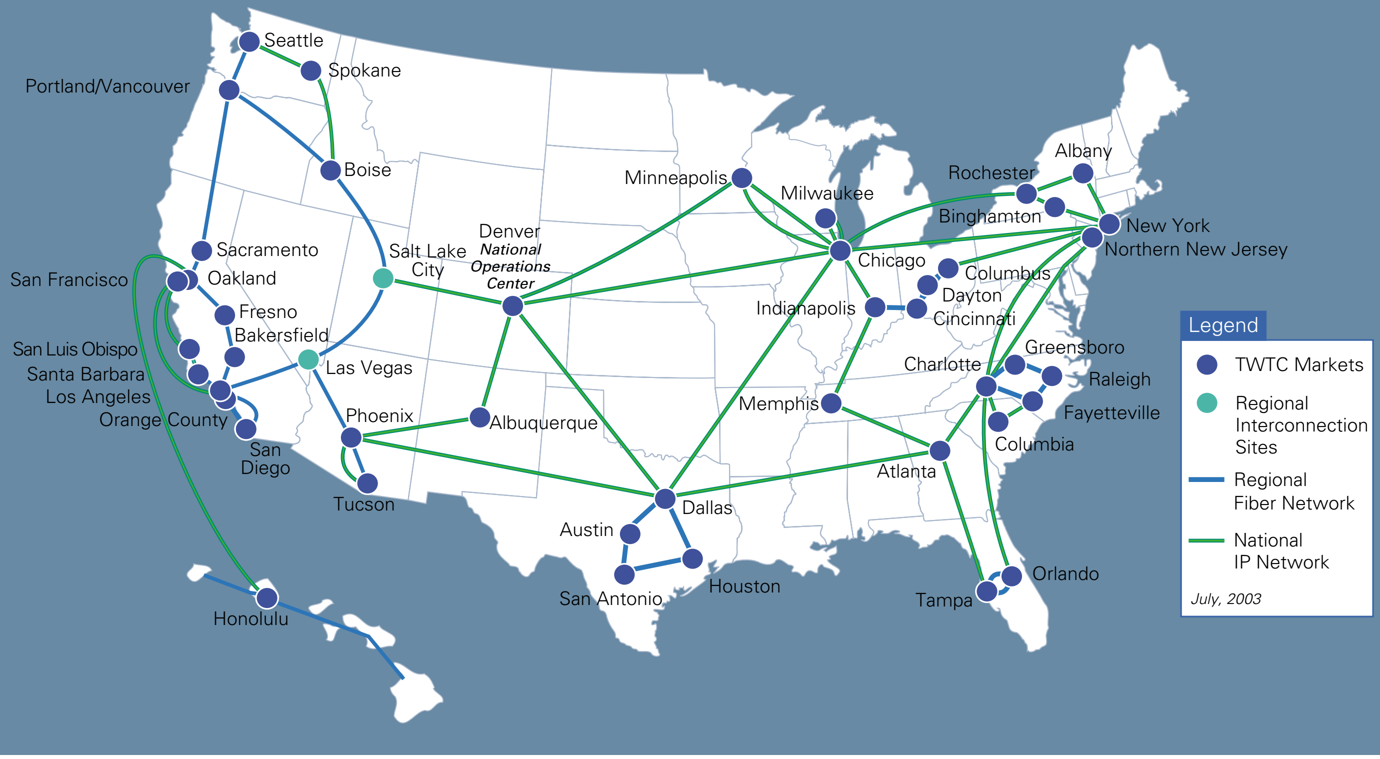
Broadcast Video TV-1 Service – Provides dedicated transport of broadcast quality video signals meeting NTSC analog interface standard RS250B. Available on a limited basis.

SONET Services:

Our SONET networks automatically re-route traffic on a protected path in Sub-50 milliseconds if the transmission quality becomes degraded, a cable is cut, or a network node experiences failure. All services have carrier class network availability with Bit Error Rates = <1X10-9.

SONET OC-N Services – Point-to-point, high-capacity channels for full-duplex, synchronous optical transmission of digital data on SONET standard rates between

POWER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Regional Interconnection Sites
Regional Fiber Network
National IP Network
July, 2003

155.52 Mbps (OC-3) and 2.488 Gbps (OC-48). OC-n services may be configured with up to 48 STS-1s in any combination of synchronous OC-3c, OC-12c and asynchronous DS-3 and DS-1 (VT1.5) payload mapping.[1]

STS-1 Service – High-capacity channel for full-duplex, synchronous, optical transmission of digital data on SONET standards. Electrical interface rate of 51.84 Mbps. Service can be configured with either asynchronous DS-3 or DS-1 mapping. Applications: high volume voice, data, image or video, eliminating the need to maintain and pay for multiple dedicated lines.

Private Network Transport Service – Private, dedicated high-capacity, premium quality services. Fully redundant, dedicated, diverse SONET ring is always available. Individual circuits between nodes on dedicated ring are available. Designed to deliver DS-1, DS-3, STS-1, OC-3, OC-3c, OC-12, OC-12c, OC-48 and OC-48c services between multiple locations or as a combination of end user and IXC POPs. Available in system/ring capacities of OC-3, OC-12, and OC-48. Customers can connect Time Warner Telecom Dedicated High Capacity Services to the PNT network node.

DWDM Services:

For customers needing 2.5 Gigabits per second to over 1 Terabit per second, we offer point-to-point, high-capacity channels for optical transmission of digital data. Standard capacities are 2.5 Gbps or 10 Gbps on each channel (wavelength).Time Warner Telecom's DWDM can be configured as protected or non-protected.

Except where noted, all services are available in all Time Warner Telecom cities.

[1] *c, as in OC-3c, is the SONET notation for concatenated service.*

About Time Warner Telecom

Time Warner Telecom is the leading provider of metro-area broadband optical networks and services to businesses. We deliver "last-mile" broadband data, voice, Dedicated Internet Access, and Dedicated Web Hosting in 44 major U.S. markets. Our strong financial position allows us to deliver powerful networks, robust products, and superior customer care to meet your needs. We're the power driving your network.

www.twtelecom.com

For complete information about Time Warner Telecom products and services, call your local account executive or visit our website: www.twtelecom.com. Time Warner Telecom, 10475 Park Meadows Drive, Suite 400, Littleton, CO 80124

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Utilicom Networks

Services

UTILICOM™
NETWORKS

Services

Services for your Business

Utilicom's subsidiaries are leading facilities based providers of bundled Broadband services for businesses. These services are delivered over the most advanced fiber based telecommunications network available. Physically diverse fiber optic routing creates a self-healing or "Smart" network for the highest availability of services to any type or size business.

Acquire the Advantage

· One Source for all your Business Communications Services:
· Voice, Video and Data
· One Locally Owned and Operated Network
· One local contact for all customer service needs
· One Bill
· Unlimited Bandwidth
· Unparalleled Reliability

Products for your business include:

Local and Long Distance Telephone Service Packages
Our advanced network means business telephone service that you can rely on, with packages tailored to meet your needs.

· Full Outbound and Inbound calling services
· Advanced 800 Toll Free service routing
· PRI and Switched T-1 for PBX and Voice IP servers
· Prepackaged Centrex lines and features
· Multi-line Business Exchange

services
- **Project and Account codes**
- **Bulk Rate Long Distance**
- **Voice Mail**
- **Call overflow routing**

Data Services

Our fiber-optic networks are built for high capacity demands of the Internet. Guaranteed Connection Rate with scaleable bandwidth options from 128Kbps to 10/100MBPS

- **Format's supported include: DS0, T1, DS3, 10/100BT, 1GE, 10GE, OC-n or STS**
- **Reliable Ethernet Transport to the Net or between facilities**
- **World Class ISP Platform with diverse and redundant connections to the worlds largest Internet backbone provider**
- **Secure Hosting and Mail Services**
- **Local and Nationwide Dedicated Transport Services**

Video Services

Over 200 channels of analog and digital television and digital audio are available for our business customers. These include many popular business channels such as CNBC, Bloomberg, CNN and others.

- **45 channels of commercial free Digital Audio**
- **Popular business and sports programming**
- **Ability to advertise over the SIGECOM Network**

Wholesale Access

Our network serves as the last mile connection and provides network connectivity for other telephone companies, and ISP's, and other service providers.

- **Carrier Access: Switched and Dedicated**
- **Dedicated DS1 and DSS Access**
- **Collocation**

Customer Service

Superior local customer care 24hrs a day, 365 days a year, from highly qualified support representatives. Our customer care is designed to:

- **Offer our customers fast, individualized support for their business solutions**
- **Network monitoring 24 hours a day, 365 days a year**
- **Maintains maximum efficiency of our network and customer uptime**

Utilicom Networks
10 Milk Street Suite 610
Boston, MA 02108-4600
Phone: 617.357.4500
Fax: 617.423.4024

XO Communications

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Products and Programs

Private Data Networking

- **VPN**
- **Ethernet Services**
- **Private Line**
- **MultiTransport Networking Service**
- **XO Network**

Looking for a product?
Try the A-Z Product Index

XO™ Private Line

Overview

XO™ Private Line Services give you high-speed, dedicated point-to-point connections so you can securely transfer data between locations. Unlike public services such as frame relay and ATM, Private Line Services are designed to send extremely time-sensitive and private communications. With Private Line, you get:

- 100% network availability with capacities from DS-1 to OC-x
- State-of-the art, self-healing fiber system for network recovery within milliseconds
- An extensive intercity and metropolitan network

With top speeds and reliability, Private Line Services handle mission critical applications like bulk data transfer, disaster recovery, distance learning, engineering and video conferencing with ease.

Features

- High-capacity bandwidth from DS-1 (1.5 Mbps) to DS-3 (45 Mbps) to OC-x
- 100% network availability
- SONET architecture
- Self-healing fiber system
- Proactive 24x7 network management and monitoring
- Customized circuits between locations
- Consolidated voice and data bill
- Flexible terms from 12 to 36 months

Pricing and Availability

For pricing and availability, please contact the XO sales office nearest you, **1.866.963.9696**.

See Also

- Learn More About the XO™ OC-192 Network
- XO™ Security Solutions

Contact XO

Sales
Call toll-free **1.866.963.9**
Contact us online

Support
Call toll-free **1.888.575.6**
Contact us online
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XO Network Map

XO™ Carrier Private Line

Overview

XO™ Carrier Private Line services provide high-speed, dedicated point-to-point connectivity for voice, data and video applications. Typically consisting of non-switched communications circuits and the required equipment to connect two or more locations, Carrier Private Line has long-haul and local circuits available in a variety of configurations. XO Carrier Private Line:

- Lets you select from IntraLATA, InterLATA and Interstate lines available in point-to-point or multipoint configurations
- Achieves 100% network availability with capacities from DS-1 to OC-n
- Offers state-of-the art, self-healing fiber system for network recovery within milliseconds
- Uses our extensive intercity and metropolitan network that spans more than 400,000 route miles to 50 cities nationally

Features

- High-capacity bandwidth from DS-1 (1.5 Mbps) to DS-3 (45 Mbps) to OC-n
- 100% network availability
- SONET architecture
- Self-healing fiber system
- Proactive 24x7 network management and monitoring
- Customized circuits between locations
- Consolidated voice and data bill
- Flexible terms from 12 to 36 months

Pricing and Availability

Pricing and availability for XO Carrier Private Line Services varies. For more information, please contact us online or call XO Carrier Services toll-free today at **1.800.474.1763**.

See Also

- Learn more about the XO™ Network
- XO™ Wavelength Services
- XO Available Markets

Contact XO Carrier Services

Sales

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Support

Call toll-free **1.888.575.6**

Contact us online

What's Hot

- Boardwatch Ran XO™ Second in Backbone Performance
- XO Provides Broadband Servi Using Upgraded Nationwide OC-1 IP Backbone Net

Xspedius Communications

XSPEDIUS
Communications

Integrated Voice, Data and Internet Solu

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  - Small / Medium Businesses
  - Enterprise Customers
  - Carrier / Service Providers
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INTERACTIVE NETWORK MAP

CUSTOMER SOLUTIONS

Carrier / Service Providers

Xspedius Communications offers superior products and services to carriers, service providers and enhanced-application providers in 36 markets nationwide.

Committed to the highest level of carrier customer satisfaction, Xspedius also employs a full-service account team of Carrier Account Managers, Technical Consultants and Service Managers.

Carriers need high-quality access delivered quickly and affordably, and Xspedius delivers. We help you manage your cost structure with 3,500 miles of metro fiber optic networks, 214 Bell LSOs, 684 End User Buildings, services ranging from DS-1 through OC-48, Ethernet, wavelength and collocation facilities.

For more information on product availability in specific markets, please contact your carrier account team at carrier@xspedius.com.

QUICK FACT

“Today’s telecommunications environment requires solutions that are not only cost-effective but are also designed to adapt to the ever-changing landscape. Carriers and service providers need to be able to rely on a telecommunications partner that has the vision and experience to bring efficient, scalable systems to the workplace.”

For product-specific information, please select:

Special Access – SONET Transport – The ability to supply SONET-level connectivity between your company’s service provider and a customer location or between service providers, resulting in superior service quality and increased capacity.

Wavelength – The alternative many businesses prefer for local access to their long distance carriers, Metro ConneX offers high capacity data transfer along with network management support bolstered by redundant equipment and power systems.

Ethernet – The dominant packet-based computer networking technology today for local area networks and beyond.

Data ConneX – Frame, ATM and Private Line – A comprehensive catalogue of data connectivity services for dependable and cost effective bandwidth between company sites.

Colocation – An outsourcing solution if you want to avoid the cost of maintaining a colocation facility while providing a dedicated and secure location with superior network connectivity.

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XSPEDIUS Fiber Group

Customer Solutions

About Xspedius Fiber Group - Customer Solutions

- Dark Fiber Markets
- Network Design Philosophy
- Network Footprint
- Plant Protection
- Customer Support
- Network Construction Services

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Dark Fiber and Conduit Inventory

XFG provides dark fiber and inventory conduit in six core Tier I markets across the United States. Moreover, we have access to assets in over 30 additional Tier II and Tier III cities.

The value of each XFG network is enhanced by strategically connecting high telecommunications traffic areas and multiple service provider networks. Connectivity provides the ability for fiber customers to enter a market rapidly and to achieve a faster return on investment.

Markets

Tier I

- Atlanta, GA
- Dallas-Fort Worth, TX
- Houston, TX
- South Florida
- Tampa, FL
- Washington, DC

In certain circumstances, XFG may also be able to provide inventory offerings in the following markets:

Tier II and III

- Albuquerque, NM
- Amarillo, TX
- Austin, TX
- Baltimore, MD
- Baton Rouge, LA
- Birmingham, AL
- Chattanooga, TN
- Colorado Springs, CO
- Columbia, SC
- Columbus, GA
- Corpus Christi, TX
- El Paso, TX
- Greenville, SC
- Jackson, MS
- Jacksonville, FL
- Kansas City, MO
- Las Vegas, NV
- Lexington, KY
- Little Rock, AR
- Louisville, KY
- Mobile, AL
- Montgomery, AL
- New Orleans, LA
- San Antonio, TX
- Shreveport, LA
- Spartanburg, SC
- Tulsa, OK
- Tucson, AZ

Other Offerings

- Long Haul: Florida
- Long Haul: Texas

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